This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

THE UNIVERSITY OF MICHIGAN · LIBRARIES ·

THE UNIVERSITY OF MICHIGAN
LIBRARIES
THE UNIVERSITY OF MICHIGAN
ARTES·SCIENTIA·VERITAS
1817

THE SCRUBS GET IT

Winning Football

BY

WILLIAM W. ROPER

WITH ILLUSTRATIONS

NEW YORK
DODD, MEAD AND COMPANY
1921

COPYRIGHT, 1920
BY DODD, MEAD AND COMPANY, INC.

Thanks are due to the Orren Jack Turner Company of Princeton for their courtesy in supplying photographs from which many of the illustrations in this book have been made.

403815

INTRODUCTION

I BELIEVE in football not merely as a good game to play and to watch, but as a splendid sort of preparatory school for life—the successful man is the one who can fight through adversity, who can take punishment and come up smiling, who's never beaten till the whistle blows. Football demands that sort of courage. And it develops and strengthens that quality in every man who plays it even reasonably long or well. Roosevelt's famous saying: "Don't flinch—don't foul; hit the line hard," is basic football advice and first class advice for playing the bigger game beyond the gridiron.

W. W. ROPER

CONTENTS

CHAPTER		PAGE
I.	MODERN FOOTBALL A BATTLE OF WITS	1
II.	THE SPIRIT BEHIND THE TEAM	10
III.	THE ROUTINE OF EARLY SEASON PRACTISE	26
IV.	EVERY MAN IN EVERY PLAY	55
V.	A REAL QUARTER-BACK MUST HAVE BRAINS	70
VI.	RUNNING THE TEAM	99
VII.	THE KICKING GAME	158
VIII.	THE SCHEDULE	171
IX.	THE DAY OF THE BIG GAME	200

ILLUSTRATIONS

PAGE

The Scrubs get it . . . . . *Frontispiece*

The old mass play 6

The Princeton team, 1919 24

Princeton-Harvard, 1919. Trimble taking ball around end. Strubing taking Sedgwick out of the play . 42

Harvard-Yale, 1919. Casey catching forward pass from Felton on thirty yard line 58

A pass down the side-lines 72

A run around end 88

Forward pass. It looks like a success 108

The famous "Twins' Lateral." Strubing passes to Trimble for first touchdown against Harvard. Murray having been successfully kept out of the play by Williams is getting to his feet. All Trimble has to do is to run for the corner 122

Colgate blocked on the ¾ inch line. The futility of a play into the centre 132

Run through broken field 148

The punt 160

Princeton-Yale, 1919. Strubing's goal 168

Line-up, Army-Navy game 180

Beginning of a forward pass 198

Hurrying the forward pass 212

WINNING FOOTBALL

Winning Football

I

MODERN FOOTBALL A BATTLE OF WITS

THIS book and its name came into being during the longest three seconds I ever lived. They happened one afternoon in November of 1919, when two great football teams, each a splendid exponent of a distinct stage in the development of the game, stood within three minutes of a tied score—a tie which meant not merely a drawn battle between two keen rivals but a stalemate between two radically different schools of football. It seemed to me, as I watched what took place then, that something more than the issue of a single game had been tried and decided in that short eternity.

A punt left one team holding the ball thirty yards from its goal-line—the team which for fifty-seven minutes had been manfully following a plan of attack founded on strength and weight

and grit and courage, and living up splendidly to the best traditions of that fine old system of play. Less of courage and less of grit would have counselled the safety of delay and the certainty of a tie to the chance of either triumph or defeat. But this team, like the old elevens of which it stood as avatar, had small taste for a peace without victory. Its set policy could not batter out the distance which still lay between its extraordinary drop-kicker and his limit of effective fire. It faced the problem of adopting, for the moment, a style foreign to its traditions and its training, of experimenting with a play which, in return for the risks it involved, must offer the chance of a long gain quickly.

I watched two runners sweep out swiftly to the left, one carrying the ball and the other a little outside and behind, running free and fast. I watched a rival end stab straight toward the man with ball and saw, with the fringe of my eye, two other defending players moving up close beside him. Just as he plunged into his tackle, the runner tossed the ball sharply toward the man outside him in the ever-hazardous but always potentially formidable device of the lateral pass. The impact of the tackle sent the pass just out of

reach of the other runner's straining fingers. It rolled unevenly back toward the goal and stopped and lay in a tantalizing immobility which seemed almost unreal in contrast to the flash of the converging runners about it.

There were three of them almost equally close to it, one the back who had failed to catch it and the others the two defending players who had swept out with the end. Between these two men lay the real issue of the crisis. The other had no decision to make, no alternative to consider but faced only the necessity of recovering the ball and the game. For the ball, as it lay there, *was* the game. There was no doubt of that. The other two, in that cross-section of a second, had to decide which of them should strike for the ball and which should take out the only opposing man who could possibly prevent a winning score.

Of these two men, one was a little in the lead and probably nearest of all three to the ball. If ever a football player faced the temptation to think of himself and his own advantage it was that man in that moment. He had an even chance, at least, of getting the ball and making a touchdown, and behind that possibility he must have seen what it means to any man of his college

who single-handed beats its dearest rival on the football field—the thing that spindle-chested freshmen dream about of nights and old grads tell their grandsons. There is nothing which comes nearer to justifying in fact the vague anticipations of those who hunger for it than the kind of fame and glory that a football hero gains from such a play as this one might become. And he must have known, too, that if he tried and failed, he could justify himself—that no one would ever blame him for the attempt.

I like to think of what that man did and what it meant to him and to me. I could not see that he hesitated. He left his feet and threw himself straight at the one man who could still hope to prevent the score.

The play ends there for me although I must have shouted like the sixty-five thousand other spectators as his team-mate stooped and seized the ball and fled across the goal-line to everything that waits for the man who makes the winning play as the score-books write it. But the winning play was really made when the sacrifice was made, thirty yards away from the touchdown that turned the day and wrote a new name in the records, and it was winning football that in-

spired and prompted and executed that play. The words and the idea of making a book about them came to me then, as I saw winning football demonstrate its fundamental claim upon the title, by a play which exemplified all that is essential and best in the system and the game itself.

For winning football, more than ever in the old days, is a game of self-effacement for the common good, of willing subordination of selfish motive and individual ambition to the cause of a team which only personifies the university or school behind it. One might almost call it an exercise in practical patriotics, and it demands something so closely akin to what a man's country asks of its soldiers that it perhaps deserves the name without even that qualification.

But it demands more than mere self-sacrifice, essential though that is. Winning football means thinking football, football played first with a man's mind and only incidentally with his hands and feet and heart, football reduced to a strategy which has far more to do with defeat or success than the precision and perfection of field tactics.

It is in this respect that the vital difference between the two schools lies—the two types of the game which, until this year at least have been

contending for the right to stand as winning football. Until the afternoon of which I have just written there was, I admit, a remnant of doubt in my own mind as to which system was really the better—whether it was wiser to have a team of fighters who did not weaken their fight by trying to think, or whether a team of thinkers who thought first and fought afterwards was preferable. That question, for me at least, has been settled, and in speaking of winning football I am not attempting to arrogate to myself any slight credit for invention, but merely making a public acknowledgment of perhaps a tardy conversion.

I sincerely believe that to-day the coach who teaches the old style of the game or who even tries to compromise by mixing the old and the new is inviting defeat for his men and himself, other things being anywhere nearly equal. I believe with even more conviction that the new game is better fun to play and better training for the men who play it and infinitely better sport for the spectator who looks on.

Football, as I learned to play it, was first and last a trial of speed and strength and weight and courage, in which there was perhaps a field for

cleverness, but which tended rather to penalize the clever team than to reward it, and which unquestionably put a premium on mere pounds and inches, so that Kipling's unkind reference to the muddied oafs at the goals was not very far off the mark, although I remember that it annoyed me horribly when I read it—perhaps for the very reason that I felt its truth.

Winning football, twenty years ago, was indisputably football played by men who had strength first of all, courage next, and intelligence only as a minor incident if at all. This was so true that only ten years or so ago one of the greatest of the old-time players said, without any serious contradiction, that nobody could play good football unless he could go partly crazy. I thought so myself, then, and if we were still playing under the old rules I should still incline to agree, but it would be hard to find a more unsound description of winning football to-day than is implied in that dictum of Tom Shevlin's, and Tom himself, if he were alive, would be the first to say so, for even in those days, whether he himself went crazy or not, he played as much with his wits as with his body.

In putting into print what seems to me the

fundamental idea of the game at its best and finest to-day, I am not, let me repeat, speaking in any sense as a discoverer, but rather as a convert and with the enthusiasm which only converts know. To my mind the issue between the two types of football was only settled finally when I watched the play of Garrity and Scheerer in the 1919 Yale–Princeton game. All that was finest in the older system had been displayed by a Yale team, which, twenty years ago, would have been a fit companion to Gordon Brown's eleven and which came as near to justifying its teaching as any team could possibly have hoped to do. Against a Princeton team which had already been twice beaten by other exponents of the modern game, this really splendid Yale eleven failed to win and finally lost instead, simply on a mental difference which offset a physical difference certainly as great. A week later, if I had needed any further proof, I saw that same Yale eleven lose to a Harvard team demonstrably inferior at the old-style game and certainly not appreciably better in any man-for-man comparison. More: I saw for the second time a great football classic decided solely by a mental superiority—a difference in speed and clearness of thought which was

quite as visible and far more effective than the difference—in the opposite direction—in physical qualities.

Perhaps two games cannot be held to settle a question like this. I do not attempt to declare that they do. I am merely putting myself on record as admitting that I am finally convinced that winning football is thinking football, even when the once-vital physical attributes are heavily against the thinking team.

In the pages which follow I have tried to set forth a few of the underlying principles on which this modern game is built—principles which I hope may be useful to other coaches and players and interesting at the same time to those who only love the game.

II

THE SPIRIT BEHIND THE TEAM

TWENTY-FIVE years of football, as player, fan and coach—and I'm not sure which description fits me best—have taught me first of all that the game is played not by eleven men but by eleven hundred or eleven thousand—by the whole student and graduate body of the institution, large or small, which those eleven men represent. This may sound like the loose and windy bombast of the all-too-common collegiate spell-binder, but my experience has convinced me that it is very sober fact, and there is confirmatory evidence to be had in the case of any one of the sporadic attempts to introduce the game as a professionally-played spectacle.

These attempts always fail, fail not only as regards the game itself but as attractions to the sport-loving part of the public. Regardless of their quality of football they would certainly continue if they paid in dollars and cents. That they flourish for a little and then die is not a

theory but a fact and the fact is significant chiefly in connection with the doctrine that it is not two teams which play the game, but two institutions and their friends who meet and tussle on the chalk-marked turf.

Your professional team and player have everything that any college team and player have, and indeed some professional aggregations have a distinct advantage in the individual brilliance of their men, and the fact that each of these men has behind him his own following of personal admirers who transfer their allegiance to any team on which he plays. A first-class professional eleven is always chiefly composed of former college stars, each far better advertised before he begins his professional career than any professional baseball player can hope to be, and each of these men has, too, a certain box-office value based on his college connections. Individually at least the professionals are certainly superior in ability to college players. No college except by a remote coincidence can hope to put on the field an eleven composed entirely of individual stars, which is the natural beginning of any professional team.

If anything the advantage therefore ought to

lie with the professional, and yet not only is professional football duller to watch for even a man like me, closely and technically interested in every minor move on the field, but it is actually poorer football, play for play, than one may see between even second-rate college teams. The old game, with its imperative demand for courage and heart, and the new game, with no less demand for these and the added requisite of lightning intelligence, fail alike when the men are playing for pay instead of for something less tangible but more compelling.

The one thing which the professional team lacks and which the college or school team has, is the spirit which stands behind the institutional eleven and does not and cannot get behind a mere collection of hired gladiators. Player and spectator alike feel and show the lack of it, and so long as the rules stand roughly as they are, just so long will promoters of professional football lose their money in the end.

Again and again professional teams have played in competition with institutional elevens, offering a spectacle which ought to have drawn ten neutral onlookers to every one attracted by the school or college games, and on every such

occasion the heavy preference of the public has gone to the inferior elevens which had something better than a pay-envelope to play for. I remember myself watching the wonderful Homestead professionals play at the ball-grounds in Philadelphia before a few hundred spectators while a University of Pennsylvania eleven which the Homestead team could have beaten with eight men, drew twice as many thousands out to Franklin Field, and while, on the dozen different lesser gridirons about the city, bigger crowds were watching minor games and paying more for the privilege.

There lie both the reason why professional football inevitably fails and the proof that the successful coach must teach football to his college or his school as well as to his team, if he hopes to get the best out of his players on the field. In almost every institution the spirit exists as a permanent thing and needs little or no creative effort on the part of the coach, but nearly always it does need intelligent stimulation and guidance to produce its best effects on the players and their play. Again I feel almost obliged to defend this statement. It seems, in cold print, like a far-fetched bit of theory and yet I know

that it is cold hard common sense and I have had to pay well for learning it by experience.

I shall never forget one of my early coaching engagements in which I found a college where the football atmosphere did not exist and where I undertook to get along without it. Once was quite enough. I do not like to remember what happened to that first year's team, although so far as material went I ought to have had a splendid season. There was, from the first game to the last, a clearly perceptible defect which I can only describe as listlessness, although it was something less tangible than that—a failure, rather, to give the last ounce, to fight for the last inch, which was and still is a quintessential necessity for winning football.

I found it then and I have found it since a stark impossibility to develop a winning combination on the field unless I had or developed a winning atmosphere in the institution. The coach's job begins right there and this side of his work never stops, even between seasons.

Modern college laws require a little more, in actual fact, from an athlete than from any other student, both as regards conduct and study. The athlete, even where the faculty control is con-

spicuously benevolent, is always under observation and usually under suspicion. He is something like the minister's son in that when he slips everybody knows it and many people gladly say "I told you so." He cannot play unless he keeps out of trouble and stands well in his classes, nor unless he keeps his body clean and fit, not just in training season, but the year around. And yet he spends his time among those who are sometimes lazy students and sometimes foolish in their ideas of manliness and manly amusement, and is constantly subject to the insidious influence of hero-worship, which has a far worse effect on the object of reverence than on the worshipper. Remember, too, that the football player as a rule is still a boy in years, and that he has all the natural weaknesses and impulses of any normal, healthy, mischievous youngster confronted by both an unfamiliar opportunity to follow his own preferences and a heavy and constant temptation to imitate older men who win his liking by admiring and liking him.

Nothing will help that boy to show sense and discretion like the right atmosphere in the college. The moment public opinion is taught to expect and demand of him that kind of behavior

which is a pendant to his prominence and popularity, the job of keeping out of mischief and staying sound in mind and body is enormously simplified for him. The right football spirit in any school requires that every man who even hopes to play on the team shall stand well in his classes and behave himself outside of them, in season and out, and public sentiment will accomplish this with those on whom nothing else under the sun will have any visible influence. I have seen it work like a miracle on men who, wanting the support and restraint of their fellows' opinions, had proved impossible for faculty or coach to manage.

And no coach can afford to forget that a good football player means a pretty good citizen, and that it is impossible to develop the one without some intelligent effort to develop the other.

The task of stirring enthusiasm behind a team during the playing season is a relatively simple affair. The excitement of the game itself, the stimulation of perennial rivalries, make it fairly easy to wake an uproar of cheers and songs at mass-meetings and parades at practise-games, but although this has its share in producing the win-

ning football atmosphere, it is the lesser part of the spiritual side—if I may use that rather solemn word—of a coach's work. It is not enough to convince a student body that it wants to win. The coach must manage to connect and correlate winning with what leads up to winning—with the cleanliness and wholesomeness of body and brain which football, above all other games, demands as a primary requisite in those who try to play it.

Sometimes I hear well-meaning people—even people who know a little about the surface of the game itself—speak slightingly of this enthusiasm. Side-line and grand-stand spirit, they call it, and if it were true that such an atmosphere bred a tendency to take one's own exercise on the bleachers, I should agree with them in part at least. But I find it strongly effective in exactly the opposite direction. The more I can rouse football enthusiasm in a man utterly unable to play the game, the easier it becomes to persuade that man to develop his body and to keep it in decent running repair. More men go out to play soccer or tennis or golf in a football-crazy college than can be driven out in one which has no team or in which the team is not supported. This is

not theory but sober statistics, as any physical director will hotly testify if you give him the chance.

Hero-worship may be a bad thing, but any one who has had even a little experience with the young of the human species knows that it is universal and ineradicable. You must deal with it whether you like it or not, and my preference is to make it as useful and helpful as I can. If a boy has nobody else to admire, he will admire and envy a dead-game gambler quite as blindly as he will follow a splendid specimen of the sound mind in the sound, clean body. I have seen too many decent young fellows acquire miserable distorted views of life from fixing their admiration on unworthy objects to be in any doubt whatever as to the relative value of giving them fine, straight, up-standing football heroes to serve as patterns and examples.

For without claiming that football works any miracles, I can say emphatically that a first-class player simply cannot be a cad, a bully or a crook. If the war taught us nothing else it should have taught us that. Men whose youth holds no training in the ethics of manly sport grow up to be men who can drown babies and shoot unarmed

civilians for fun, and men who have graduated from football and cricket play the dirty game of war so cleanly that it almost loses its intrinsic horror. There is not much room for debate on that point at least. I have never met a man who played what I call winning football who did not have qualities which went far toward redeeming his defects, and I should be slow to worry over any boy whose hero-worship centered on Hobey Baker or Aleck Wilson or Johnny Poe.

It needs, however, the right football atmosphere to make the players realize their obligations to themselves and to their schools. Unguided they are apt, sometimes, to think their duty ends with the whistle and that off the field they are free to do as they please. I make the creation of what I call the winning football spirit in the whole student body the foundation of my work and see to it before and after everything else. I think it pays in more ways than one.

This spirit, once wakened, will bring out a squad of candidates which includes every possible piece of football timber and a goodly quantity of material, too, which seems impossible but often isn't anything of the sort. I believe in giving not merely a warm welcome to every man who

presents himself at the field-house, but in putting a special and careful effort on the candidates who show little immediate promise. Some of the best players ever developed were drawn from this class of candidates—men who had failed to make prep-school teams because of relatively slow development, and who as freshmen or sophomores were still well behind their mates in football knowledge and experience. Such men are sometimes slow to take hold on the field and the first impulse of a coach overwhelmed with the distractions of trying to distinguish between a hundred strange faces, is to clarify his problem by eliminating them at once. There could hardly be a more serious blunder. The experienced and confident player is sure of himself and knows a little of what is to be done, but the beginner feels shy and strange at the best of it and needs encouragement not only for his own sake but for the effect on the rest of the squad and the undergraduate body behind it. No coach can afford to give anybody a legitimate reason for feeling slighted. Such grievances damage the morale more effectively than anything else. Trying to pick an eleven on the first day or in the first week is impossible and unwise.

I like to see competition for places on my teams alive and keen right up to the final games, and this cannot be done except by keeping the slower learners interested and eager. There is always the possibility, too, that one of them will suddenly develop into first-class material.

Besides, the player with the greatest natural talent for the game is apt to be the one who can stand the least amount of preliminary drill and he will develop too quickly unless held in some sort of check.

In looking over a squad in the first few days of the season it was once a fairly simple matter to choose the most available men by merely looking for weight and size. Roughly speaking, it was bigness and strength which the old game wanted and every coach had to get all he could of both, regardless or nearly regardless of other qualities. The new rules have changed this very radically. What I look for first, as I study my men nowadays, is that quality which can best be described as ability to handle oneself—a close correlation between mind and muscle which expresses itself in balance, speed, perhaps one might say, grace. This is not the most important quality but it is the most vital of these which are visible on short

acquaintance and important enough, anyway. The natural football player has a tremendous start on the others, in his mere ability to make his hands and feet and body do what his brain directs and do it quickly and with a minimum of wasted effort.

Next I try to find men with nerve and cheerfulness, who do not complain too readily of minor bumps and bruises. Any one who is inclined to be sorry for himself on slight provocation is pretty sure not to make a good football player, however well he may be equipped otherwise, for, whatever else the new methods of the game have done to football as we knew it in the smashing nineties, they have certainly not lessened its demand for courage and heart and grit. If they had I for one should want no more of it.

Very early one can distinguish the men who take easily to coaching and to spot those who resent it or are dull at assimilating it. It is possible to do a great deal with a man physically handicapped who will absorb and profit by instruction, but the season is too short and crowded to divert much time to unwilling learners or essentially stupid ones. So that before the season is very old I begin to have a line on what is

the most important single attribute of my men—intelligence, ability to think and understand.

On every squad there are a few men whose instinct is to produce a ready alibi and to start an argument over every mistake they made. It would be pleasant to send such men straight back to golf, the birthplace and natural habitat of the whole Alibi family, but this will not serve, for some of the best natural football men I have ever handled have had this habit in its extreme degree. The only thing to be done is to cure them as quickly and thoroughly as may be, and patience and diplomacy only aggravate the disease. A surgical operation of downright rebuke is the only effective measure I know and it sometimes helps to administer this treatment in public. It cures more than one patient at a time.

It is sadly easy to neglect one very vital feature of early practice. The men look fit and are generally brown from their vacations, but they are far from being hard in the football sense and are more prone to minor injuries than at any other time in the season. Too many coaches have lost the services of their best men by letting them go too fast and far in the opening days or by waiting until a team has been roughly chosen before see-

ing to the matter of equipment and protection. Sometimes lack of funds makes this seem almost inevitable but it never pays and nobody can afford to let men play or even practise unless they are properly dressed and padded for the shocks and contacts which they are bound to meet.

I have no intention of trying to make this book a *vade mecum* by means of which a man who knows no football can teach it to others no better off, and I want to avoid dwelling on admitted truths and facts already known and considered by coaches and players everywhere. But I have suffered myself and seen so many others suffer from neglect in this seemingly trivial respect that it seems to demand a passing comment at the least.

Every good player is always keen to get out of the dressing-room and on the field, and unless a very careful and painstaking eye is kept on the detail of protective equipment, every season will yield minor injuries which could easily have been avoided. I think that it always pays to insist rigidly that no man has any right on the field before he has taken every pains to guard against avoidable injury to himself, and I try to make it

THE PRINCETON TEAM, 1919

a point of honor with my men to observe this rule as a particularly binding obligation.

Not that football is dangerous. It used to be rougher than it is—and old training methods were chiefly to blame—but under present conditions there is only the irreducible minimum of danger inseparable from any game of personal contact. Every player who believes in it owes it the simple fairness of protecting its good name from attacks based on evitable accidents, however insignificant they may be.

III

THE ROUTINE OF EARLY SEASON PRACTISE

WHEN I was playing football the development and selection of the team was largely a survival of the toughest, in that the idea of the hardening process of the early season consisted mainly of encouraging severe bodily tests which were supposed to eliminate the weaker candidates and strengthen the more rugged. They accomplished the first half of this aim very thoroughly and a week or two of practise used to be enough to drive all the lighter men to the sidelines or the infirmary, along with a fair percentage of the heavy ones. This was less fatal by far in the old days, when the aim of every coach had to be to get weight, and a fast light man had to be extraordinarily good to get much consideration, even if he managed to survive the clashes of these opening scrimmages. The new game needs these faster men much more than did the old, and

the early work must be planned so that none of them shall be hurt or slowed up by any needless accident.

One of the commonest methods of hardening men in the old times—and it has stubbornly clung to a place in even modern practise—was the grand old plan of falling on the ball. I think that every squad in the country spent more of its first few days in this particular exercise than in anything else. One reason for it probably lay in the beautiful ease with which any volunteer coach, with a leathern lung and an uninventive brain, could put the neophyte through it, bawling lustily at him as his tender-skinned body slid over the rasping turf. Perhaps it was fun, too, for those who didn't have to do it. It amused the bleachers to see the antics of beginners, and there was some pleasure in it for the adept who could cover the ball like a hen with a lonesome chicken, but I can see no other excuse for it, then or now.

At its best it was useless practise at a feat which was never good football and is now so directly opposed to sound tactics that it is almost comic. At its worst, it was among the most dangerous forms of early-season training. Very few

men came through it without losing large areas of skin and acquiring choice collections of blue bruises where those bruises hurt most. For that matter its damage was not confined to the early season. I remember vividly the tense minutes before one Yale–Princeton game when the set custom called for each team to indulge in an exhibition of its prowess at this art of falling on the ball while the packed stands thundered with applause. They were beautiful acrobatics, too, and well calculated to strike terror to the enemy, but on this occasion one of the best men on the Princeton team, making a particularly vicious stab at a rolling ball, got up with a broken collar bone and proceeded to watch his team from the side-lines while it took a sound licking, perhaps for want of him.

I may as well confess that it took me twenty-five years to see the light and this came near costing me the services of a very necessary player for the whole 1919 season, who dislocated his shoulder—and it wasn't a paper-weight shoulder either—by trying to fall on the ball under my personal direction. This settled the matter for me, but if I had needed any final persuasion I got it a little later, when I watched three Yale

men struggling among themselves to fall on a ball with no Harvard man anywhere near it and a clear field to the goal before them. Any one of those men could have counted three and then picked up the ball and scored with it. As it was they finally got the ball and nothing else.

This point deserves an excursion from the main theme, it seems to me, as I remember that Herman Suter ran ninety-five yards against Harvard in 1895, with a ball on which he had conspicuously refrained from falling; that Arthur Poe scored the winning touchdown against Yale in 1898 from the same position and under the same circumstances; that John De Witt repeated the performance, also against Yale, in 1903, and that Ed Booth did it again in 1907 and Sam White against both Yale and Harvard in 1911, while Scheerer's example in 1919 has already been mentioned.

And I can recall falling on a ball myself, in the Yale–Princeton game of 1899, which luckily did not cost us the game because we were able to gain twenty-five yards afterwards and Arthur Poe was equal to the emergency with his field-goal in the last minute of play. This particular instance is especially vivid because I could have

picked up that ball more easily than I fell on it and I could certainly have made those twenty-five yards and perhaps a touchdown without any further doubt. I distinctly remember that as I lay on the ball it seemed like a full minute at least before anybody dropped on me. Probably it was all of two or three seconds in actual fact. Searching through an experience of twenty-five years of pretty close contact with the game and a fairly wide study of its records, I cannot recall more than a few scattering instances in which any real advantage resulted from falling on a loose ball, except when this occurred behind the opposing goal-line where, of course, there was no need of any further gain.

I am trying not to be dogmatic but with me, hereafter, it is a fixed and settled rule to cut out falling on the ball in practise and in games, and instead to intensify the training we have been giving in the actually easier matter of picking up a loose ball and getting under way with it. I do not want to teach my players to fall on a ball at any time, because in the heat of a game some of them will certainly do it at the wrong time and cost us yards or a score instead of winning them. In my own case I remember wishing that I dared

disobey the positive orders we had been given and run with the ball instead of falling on it. I prefer to take a chance of losing an occasional fumble for the sake of getting a chance to score an occasional touchdown, and to eliminate the risk of hurting a player in an exercise which is far more dangerous than it looks.

I find that in this matter of early-season practise it is very easy to waste time and adopt such mistaken policies as falling-on-the-ball drill unless one makes in advance a very definite plan of action covering every minute of the two hours which is my limit on any one day's practise. I don't know how far this corresponds with the policy of other men teaching the game, but from observation I do know that some of them work pretty much on the inspiration of the moment. I think this is always a mistake and that it pays heavily to have a fixed program and to use a stop-watch in carrying it out. I want to know exactly what to do and when to do it and not to show any indecision or hesitancy before my men. Also I find that my own judgment is better beforehand than during actual work and that unless I compel myself to keep close to my prearranged plans I am liable to the error of overdoing some

one thing in which the team seems to need extra practise.

I recall many, many occasions in the old days when it had been solemnly agreed between coaches and trainer that a time-limit should be set on the day's practise and when the coaches would overrule the trainer's call of time to put "just five more minutes" on some individual play which they wanted to perfect. These five minutes were nearly always costly, for it is a provable fact that men are hurt far more easily when they are tired than when they are fresh. Time after time these few extra scrimmages cost us the services of somebody we needed badly.

Views differ radically as to the advisability of beginning practise before the opening of college itself and it seems wise to a good many coaches to get their man back several weeks ahead of time for the sake of extra preliminary work, even at the expense of inviting unfavorable criticism from the apostles of chemically pure amateur athletics, who are always and to my mind often justly opposed to this idea. It is my job to consider that question pretty much from the effect it may exert on my teams and let the theorists settle the ethics of the matter. As it happens I

am in agreement with the opponents of ante-season practise because I think it better for a team to spend a relatively short period in purely preliminary work. I think that ten days is enough to fit a team for its first scrimmage and that a week is enough scrimmaging to make ready for the opening game. More than that is apt to do more harm than good. Too much of the rudimentary early work wearies the men mentally and dulls the edge of their interest in the game. Too much or too early scrimmaging does them even more harm.

The basis of all preliminary work, in my system, is running. I find that the best way to harden a man everywhere is to get his wind in good condition and that running does this better than anything else. There are people who agree with me so heartily on this point that they will line up a squad of soft men and run them around a track until their tongues hang out and who wind up every day's practise with such an exercise. Very little good can be extracted from that sort of running. Often it is harmful in the extreme, particularly in this new game of ours where keenness and wit are at a heavy premium. Nobody can afford to bore his men by monotonous

drill, and at the best of it there is so much that can hardly be called interesting that to add needlessly to the amount seems to me sheer folly.

Running can be beautifully combined with other drill which is interesting in itself and highly necessary in the development of a team. It is the best sort of fun to catch punts and run them back. It is first-class sport for an end or for the whole team to vary that procedure by charging down toward the catcher, without, of course, attempting a tackle at this stage of the work. Everybody seems to enjoy forward-passing, too, and in the course of a few minutes' drill at this every man on the squad can be induced to do a lot of useful running without realizing that he has been doing it. Back-field men are also apt to like drill in dodging and stiff-arming through a group of pretended tacklers, and signal practise involves an extraordinary amount of running which is also chocolate-coated and does not make the men feel the weary sort of resentment which any monotonous and compulsory exercise is certain to superinduce. I disapprove heartily of drill in set, quick starts early in the season, as many trainers seem to counsel, because of the likelihood of straining a tendon during these days

of relative softness. A strained tendon, in any circumstance, is one of the meanest and most baffling injuries for the trainer to deal with, and nowadays, when we are pointing for speed and more speed every minute, it is especially fatal, for it slows a man up even after it has stopped hurting him.

The difference between the old and new types of the game, indeed, affects almost every detail of training routine, even down to the diet of the players. The old idea was to feed them red meat and all they could swallow of it. The best modern methods agree that the right diet is the wholesome, moderate, well-balanced ration to which the men are or should be accustomed the year around, and there is none of the old craze for putting on weight at the expense of overburdening even a boy's capacity of digestion. I am almost a crank on this matter of meat-diet, and think that between a team overdosed in this respect and one actually underfed the latter would be better, other things approximately equal. Also I put a heavy stress on the necessity of making the mid-day meal decidedly light and it appals me to see the way some teams are stuffed an hour or so before they are sent out on the field.

In the old days the matter of rule-study was unimportant, for the game as it used to be involved comparatively few emergencies in which knowledge of some fine point was essential, but with the introduction of the forward pass and the other features of the modern game, rules began to play a very real part in the development of a good player at any position on the team. Games are being won and lost every Saturday during the season simply because somebody knows the rules well and somebody else doesn't. It takes a surprising amount of drill to ingrain certain very important details of the law into the men's minds so that observance becomes second-nature, as it must. Here again the distinction between the two games is striking and vital. When I was playing the necessity of reporting to the referee on entering the game had never been heard of, and it might seem a simple affair to introduce it. I remember that it did not impress me as complicating my work very much when the rule was first adopted, but I find it one of the hardest things to cover. In spite of every possible precaution, in spite of a reminder the moment they were sent it, I have watched man after man race out on the field and forget all about the referee

until he had cost his team fifteen yards. I have seen this happen on one play and repeat itself on the next one, and I have had to watch games lost for no other reason in the world. In the same way the new rule forbidding a substitute to speak to his fellow-players until after the first play has been made is a haunting terror to anybody familiar with the impulsiveness of youth and the peculiar eagerness of the entering substitute, who goes out on the field like a dynamite rocket and whose powers of thought are temporarily suspended.

The only possible way of making reasonably sure that these two modern innovations will not lose a game, is to make their observance a subconscious affair of pure mechanics and that can be accomplished only by everlasting repetition. I manage it by making it an iron-clad rule that no man may take another's place in the least formal of practise line-ups without going through the entire ritual exactly as it would have to be done in a championship game and by sternly punishing any failure to do so. This means a complete set of officials at practise every afternoon, but I find a distinct compensating advantage in the effect this has on observance of off-side regu-

lations, holding and the use of hands. In the old times we all got into bad and costly habits during practise simply because there was no serious attempt to enforce any rules except during actual games. Besides, a chance to act as an official during practise is not only interesting for any player, but gives him the best conceivable drill in the application of the rules.

I generally try to check up on this study by a written quiz toward the end of the second week. I never use oral recitations after that except for those who reveal in the quiz that they have not yet learned the essential rules. Nothing bores a heady player more than being obliged to sit through tiresome rule-discussions after he has passed beyond the need of them. And let me repeat that this question of keeping up a keen mental interest in the game is one of the most important parts of early season work. The minute a man stops being interested he loses a big share of his value as a player, and nothing is easier than to forfeit interest by dull or prosy routine, of which there is so much which must be faced under the best possible conditions.

Rule-study, catching punts, forward-passing, dodging and simple signal drill constitute the

bulk of our early season training, with of course steady drill for punters and drop-kickers which never stops. Some progress is also made in showing the line-candidates how to charge, but this is done very carefully and gradually so as to avoid strained tendons. The degree to which we come up to our first game without even minor injuries is hardly believable to one schooled in the old rough system, when the side-lines were flanked with temporary non-combatants and a few permanent losses had already gone down in the books.

After the first week, instruction in tackling and interference is added to the list and the line-men are introduced to the job of breaking through, both processes being approached gingerly by way of theory before any attempt at actual work is made. The old and new games are identical in their insistence on interference and tackling as absolute essentials to sound play, and the team which cannot do both of these things acceptably is bound to be beaten by the team which can, not once or often, but always.

I prefer teaching tackling by what seems a more cold-blooded method than the old system of the dummy. No runner yet ever remotely re-

sembled a tackling dummy in his movements, and tackling like almost every other mechanical part of the game has to be subconsicous and instantaneous. Teaching a man to dive at a stuffed cloth bag will never teach him to bring down a shifty open-field runner, and it actually teaches a line-man how not to tackle a plunging back with high knee-action. Besides, tackling is very far from a single, standardized process and differs radically for men at different positions. This is a distinction rarely if ever drawn in the old days, when nine-tenths of all tackling was done at or in the line of scrimmage. To-day we have to train the line player to stop a straight plunge and throw it back by sheer accuracy of timing and solid drive in his plunge. We have to teach an end to tackle a runner covered by interference—a vastly different thing from any possible use of the dummy and above all we have to develop backs able to bring down a dodging runner who has passed the line of scrimmage and has been trained to perfection in the use of the stiff-arm and side-step. None of these things can possibly be taught with a manikin on wires, and using it often does positive harm to a man who would by mere instinct tackle a human runner

well. We find the best plan to be the use of something very like actual playing conditions to teach all three types of tackling, and this has the great added advantage of injecting the element of individual rivalry between the runner and tackler, and of training the runner quite as much as it trains the tackler. Dummy drill used to be one of the most tiresome parts of daily practise and live-tackling is visibly far less monotonous for the men.

Interesting or not, it would be hard to put too much time on it. It is the very basis of the mechanical side of the defense and every coach finds it the most elusive feature of his task. One week one is convinced that he has a team of tackling demons and the next week he finds that not a man on the team could stick to a sheet of fly-paper. Tackling practise can never stop short of the last scrimmage. The best conceivable defense lies in the disheartening effect which sure, hard aggressive tackling has on the opposing attack, and weak, loose tackling will nullify the best ground-gaining ability imaginable. There is not much use in gaining yards unless they are going to be kept.

Curiously enough, the tackling dummy which

I discard as a means of teaching the tackle, is better than live practise in learning how to interfere. The tackler must strike a man in motion. The interferer must usually take out a man who is standing still or moving slowly, nearly always well-set and braced against his dive. This means that a dummy will serve as well, almost, as a living player, and will spare the player the necessity of repeated service as a target. It is a peculiar but common phenomenon that the head-on impact of two swiftly moving men does not hurt either, while the crash of an interferer into a man standing solidly set to meet him is apt to injure both, and particularly likely to hurt the interferer.

The great mistake that most men make in interference is in leaving their feet too soon and giving the tackler a good chance to dodge, while the interferer has put himself finally out of the play.

Interference, while it was always a vital part of the game, has become a far more difficult affair to perfect under the new rules which forbid the old system of pulling and dragging a runner even after he had been tackled. There is no longer any way of atoning for a poor beginning by jerk-

ing a tackled runner along. The interferer has to put out his man before the tackle or not at all, and the tremendous dodging possibilities of the open game make this harder than ever to do. Rightly played, this eternal conflict between interferer and tackler is the prettiest feature of the modern game and people who only watch the ball and are fondly convinced that a good gain is due to the runner alone, or a loss attributable only to his failure, are missing the best fun and the really fine points of football.

There is no way of giving proper credit to the interferer, and this is one serious defect in the present as well as in the old days. I have often wished that some scoring system might be adopted similar to the baseball method of crediting both put-out and assist, for it is often more unjust to credit all the gain to the runner than it would be to give full credit to the first-baseman, for a lightning play from deep third or short. It is a long time since Harold Weeks was burning up the gridiron at Columbia and occupying head-lines in every sporting page, but I have more than one vivid mental picture of Bill Morley making possible the gains on which Weeks earned his reputation, although this is far from saying that

Weeks was not a remarkable runner, for he was all of that. Back in 1894, Dana Osgood consistently gained long yardage for Pennsylvania, especially in the Penn–Harvard game of that year, and he, too, deserved much of the praise he got, but it was the wonderful interference of Arthur Knipe which underlay nearly every one of his spectacular runs. Only rarely, as in the instance of Eddie Casey, does one find the back almost or altogether responsible for his results. Casey gained his ground by himself to a remarkable extent, but the men who can get along without interference at least as effective as their own running powers are few and very far between.

Like tackling, interference is taught straight through the season and there is never time enough to teach it all. If I had to choose between one good interferer and three first-class runners-with-the-ball, in my back-field, I should always choose the former and it would win me games.

Offensive charging in the line is really a form of interference and takes as much teaching, almost, the season through. There are two main types of charging in general use, one of which trains the line-man to make an opening by charging his opponent to one side or the other instead

of taking him straight back, on the theory that nowadays the half-back is not so close to the line as he used to be and is less able to see and fill the opening than in the old days of close play. Personally I prefer the system of teaching a line to charge straight forward as a single unit because it is practically impossible to foresee the position of the defensive line-men on any single play, in these days of movable and varying defense formations. A straight-charging line is always effective. An opening-making line sometimes helps the defense to reach the runner. I think it was that great old West Point player Graves who perfected this idea and who took it up to Harvard in the early times of Percy Haughton's régime, where it was developed to a state approximating perfection and was largely responsible for the success of Haughton's teams, which always got into the charge with the drive and precision of a smooth and powerful machine.

Signals ought usually to be given out about the end of the first week and this always involves a problem which I have not yet solved to my own satisfaction. To how many men shall the signals be given? If they are confined to a few of the outstanding candidates, the effect is bad on

the rest of the squad, who feel with entire justice that a selection has been made on scant evidence, and those who are so honored are also apt to be a trifle self-satisfied and to assume that they are fixtures for the season. Yet if the signals are known to the men who must play on the scrub it is always an exasperating fact that the scrub knows the Varsity signals better than the Varsity itself, and the result, which ought to mean better practise for the Varsity, curiously enough interferes seriously with its development, for being used to playing against men who know your signals is bad training for facing men who do not. It becomes instinctive to avoid plays and formations which cannot gain against a prepared opposition but which ought to be effective when not anticipated. The coach must constantly be on guard against confirming mistaken habits until they, too, have become second-nature or subconscious, which means practically impossible of eradication.

There is no sure answer to this question. For myself I prefer to let as many men as possible feel that they are Varsity material and give as few men as possible the idea that they are Varsity certainties. Competition for place and a cheer-

ful morale are fundamental bases for my plan of instruction, and to get them I will put up with defects in less important directions. It is a wonderful player who can believe that he is sure of a place and still play winning football.

A fairly effective method, where the size of the squad will permit, is to avoid choosing a definite Varsity or scrub at once but to divide the players into two or more teams of approximately equal merit, so that no man may say certainly whether he is playing on the first or second or third or fourth until after the scrimmaging has proceeded for some time. This is especially true of a squad containing many men from a winning team of the previous year. Such a squad will be prone to ever-rapid development and the defects of that condition will be hard to overcome.

I think the 1919 Colgate team was a good example, successful though it was in most of its games. It wound up by losing the one it chiefly wanted to win and by tying that which was probably next in importance in the eyes of coach and players.

Here was a team of veterans who had played together for two seasons at least, and the squad was small and except for the veterans

much inferior. The team reached its top-form in mid-season and went back steadily after that, just as every prematurely perfected eleven is bound to do. The same thing happened disastrously to the Princeton team of 1897, probably the best Princeton eleven in history. Practically the same men, the year before, had run up the largest score any Princeton team ever made against Yale, and the Yale team of 1897 was green and raw. Princeton reached its peak against Lafayette, defeating an exceptionally strong Easton eleven by 57 to nothing, and lost a week later to Yale by a single touchdown. Similar instances can be given without number.

Of course there are schedules in which mid-season games are more important than final ones, but the reverse is nearly always true, and the problem of bringing the team to its best at the end of the season is always a troublesome one for the coach and the trainer. It begins on the day when the squad is divided and is always subject to complication by the results of early games or other unforeseeable emergencies.

Dividing the squad into unidentified units one of these receives a set of signals which will remain those of the Varsity through the season,

subject perhaps to change, but preferably not, because here again the value of repetition is too great to be sacrificed unless absolutely necessary.

Simplicity is the life of any sound signal system. The task of understanding each play called for by the quarter-back must be reduced as soon as possible to the same subconscious process as tackling and interfering. Every player needs all of his conscious intelligence to meet the unforeseeable and infinitely varied emergencies of actual play. The signal must carry its message to his mind with no more effort on his part than if it were phrased in spoken words. Otherwise the strain of translating numbered formulæ into terms of play will rob him of a great share of whatever playing ability and speed of intelligence he may possess.

It is funny to watch the pride with which some coaches invent signal systems which really need a code-book and an index to be interpreted. I remember one particular instance in which a coach had devoted tremendous effort to evolving a system elastic enough to accommodate itself to a repertory of a hundred and sixty-three actual plays! Without even referring the wisdom of providing a quarter of that repertory, the mere

cumbersome complexity of the signal system leads up to a story.

This team, after losing two or three minor games to much inferior rivals, was within ten days of its final game with its pet and particular enemy, and its play, according to eye-witnesses, resembled nothing so much as the conduct of a disturbed nest of red ants. After every signal the eleven players ran in eleven different directions and head-on collisions happened quite as often as tackles by the other side. And the coach, as usually happens, was entirely convinced that what the team really needed was a few more good plays! He was finally persuaded that he ought to make a scouting trip to the seat of the rival college, and as this happened to be a two-day journey each way, his expedition left the hastily summoned specialist in lost causes a week of clear time for reform.

This took the drastic shape of scrapping the entire repertory and the signal system with it, and replacing both with four of the most elementary plays imaginable, each of which was denominated by a single number. The team seemed to expand in one eleven-sided smile as this decision was announced and for six or seven days

they perfected those four plays as if their lives hung on them. They met a team which would certainly have beaten them by five touchdowns the week before and played it to a tie which only luck prevented from being a win.

All through that game the returned coach danced frantically on the side-lines and sent in messages by substitutes to try play 136-B or 93-S, to which the rebellious quarter mysteriously paid no heed. And the pathetic part of the story is that to this day that coach believes and says that his special trick formation with the center standing on his left elbow and the right tackle crossing his fingers would have been sure to win the day.

I find, emphatically, that it does not pay to go too far in trying to devise a system which cannot be decoded by the enemy. It is better to run a fair risk of having the signals solved during the game than to face the certainty that every one of them will mean a mental effort for one's own eleven and that a goodly share of them will lead to confusion. For that matter the so-called addition system practically defies detection except on long and close study, even though every opponent knows that it is being used.

It is generally agreed nowadays that the mis-

sion of the signal should be not only to indicate the play but to fix the time at which the ball will be passed and the play begin. This second purpose used to be accomplished by some motion on the part of the quarter-back, who had to indicate to the center by some gesture or other when he was ready for the ball. An alternative and later system was to start with the ball, which the center passed when it seemed good to him. Both of these methods, obviously, gave no advantage to the attacking team, and even put it under a disadvantage in that the attacking line at least had to strain to see the quarter-back at all while the opposing side had to watch him anyway. Starting with the ball obviated this difficulty but did not provide the attack with any private information as to when the play would start.

As the present rules clearly handicap the offense, it is all the more important to make sure of every remaining possibility of advantage, and a fraction of a second's lead in the charge is a very considerable one. So most coaches have gradually been converted to some form of starting signal which, like that of the play itself, is usually a number which has significance only to

the attack. I think this is a very useful feature of any good signal system.

With signals come the beginnings of a team's repertory of plays, which, like the signals themselves, have to be learned by patient repetition until each man's place and part in each play is instinctive with him and thoroughly familiar to every other member of the team. Nothing has ever been gained by trying to teach more than one play at once, and it is time wasted to overload a green eleven with any play which it does not immediately proceed to perfect.

This process begins the actual creation of a team attack, and is the first real manifestation of that all-essential quality of winning football—team play. To build this peculiar unanimity and simultaneity of action on the part of eleven men is one of the hardest and most important individual part of field coaching. The spirit behind the team is perhaps more effective in unifying it into this smooth, correlated machine than even drill itself. There is nothing so curiously contagious as the spirit-of-the-mass which makes the good soldier and the good football player. But it is drill and more drill, in scrimmage and out, which perfects the thing and applies it.

Here the coach must be ready with actual offensive formations, and this phase of his problem deserves a separate consideration.

IV

EVERY MAN IN EVERY PLAY

WINNING football, so far as the attack is concerned, consists of "getting there fustest with the mostest men." This needs amplification just as much as it did when General Forrest applied it to the science of warfare. And the consideration of individual plays is a matter, after all, of tactics rather than strategy, although in sum, the team's plays have a direct bearing on its strategical limits and potentialities.

I have no intention of trying to expose here any individual play. I believe that no play can be successfully put on paper, and I know that every coach has to invent and adapt according to his own ability and experience and the quality of his men. I have little respect for diagrams and drawings and maps as teachers of a game like this, effective though they can be in connection with practical demonstrations. My desire is rather to illustrate some of the principles which seem to me to underlie all sound offensive

manœuvers and the broad theory which I think ought to govern every coach in his choice of plays.

First of all, obvious though it may seem, many followers of the game need to be told that no play is a good one which does not use every man on the team and that the best play is the one which uses every man to the full limit of his individual powers. A man wasted is a play spoiled, however good its occasional result may happen to be. If a drive directed at the right leaves a left end with little or no part in it, there is something radically wrong with the device itself and the team which is taught on that basis will always lose to even inferior teams which waste nobody. The attack is too heavily handicapped at the best of it to let a single ounce of power go unused, and this applies to plays whose merit lies only in their surprise value quite as much as to those which depend on strength, skill and speed.

It is a good theory to assume that at some time during a game every point in the opposing team will be vulnerable and should be attacked. It seems to follow that a team ought to be equipped to send at that point a play which will extract every possible advantage from the opportunity.

This attitude toward the problem is far more wholesome for any coach than that commonly exhibited state of mind which ignores the defense and seeks merely for the unstoppable play or the play which most nearly approximates it.

A rightly-equipped eleven goes on the field with a set of formations and developments from them designed to provide its quarter-back with the raw materials for field strategy, not necessarily to accomplish in themselves striking gains or spectacular scores. A badly coached team goes on the field with nothing but an assortment of plays primarily intended to "shake loose" some brilliant runner and permit long scoring runs. I am far from minimizing the value of such variations in attack and I use them myself all I can, but I maintain that the objective of every play is to gain yards and not touchdowns except as a lucky incident.

This perhaps calls for some clarification. In 1916 Harvard had a team which was at least as good as the Yale eleven which defeated it at New Haven, and I believe it would have beaten Yale if it had lacked the services of easily its most brilliant player—the same Eddie Casey who was Harvard's mainstay again in 1919. That sounds

and which pay for that hope by involving a heavier risk of failure or a higher price for it, but such plays, though they have a legitimate place in the equipment of any team, ought to be held as was Harvard's 1919 use of Casey, for the emergency when their success is sufficiently important to justify their use.

Plays, as I see them, are something like words. Some of them may convey a complete meaning when used alone, but they are most effective when arranged in correlated groups, and the man whose vocabulary consists of nothing but one-syllable Saxon words which he uses wisely is a better speaker than the one who knows a dictionary full of polysyllables but cannot put them intelligently together.

It is this correlation of plays which seems to me to be the life of the attack under the new rules. The selection of any particular move at any particular moment is a matter of generalship and rests always with the quarter-back and not with the coach, except in so far as the coach has taught or failed to teach the quarter how to think, but the provision of the play itself and the training of all eleven men on the team in its execution is purely the coach's affair.

His problem, then, at this stage, is to furnish an equipment of formations and plays from them which are each adequate to its individual purpose and which are also susceptible of being woven into a homogenous attack formulated on the field by the field-general exactly as the commander at the front relies on headquarters for men and munitions and the drill and discipline which make those men obedient and manuable, but provides the intelligent application of their force himself.

The properly equipped team is drilled in running plays which are practically standardized, and which include thrusts at the line, runs at end, forward passes, punts, and drop-kicks. It is trained, besides, in certain trick or open formations designed to gain by surprising or confusing the defense, and these are naturally less standardized. This catalogue includes every element of a sound attack, and within its limits the aim of the coach, as I see it, should be to attain perfection of execution rather than variety.

Unless you can clearly foresee a need for a formation or play, you are wasting your time in teaching it and lessening the degree of precision with which necessary plays will be carried out,

however clever or effective your special one may look. You cannot combine field-generalship with preliminary team-coaching by providing a special play for every situation and it is folly to attempt it. I think it helps any coach to distinguish as sharply as possible between what the quarter-back must always do during a game on his own judgment and what the team has to be trained to do in practise.

Every man with any football experience certainly knows the standard plays and their proper execution. Their use at any special crisis of the game is purely a matter of generalship and will be discussed under that heading. There is certainly no use in trying to teach an end run on paper to a man who doesn't know it in advance. All of these standard plays have justified their place in football and there is no room for argument about them. But there are others which are still debated and perhaps debatable.

The value and soundness of the forward pass ought to be beyond argument by this time, but there are still men who have no faith in it or patience with it. I shall reserve my brief in its behalf for a more convenient page, and assume here that its usefulness and importance are conceded.

No team knows the forward pass by instinct and no team learns it without a lot of hard drill. I think that it pays to teach every man in the back-field to throw the pass and I know that there is never time enough for drilling the receivers. The coaches who yearn for some new combination and drill their teams in weird attacks would be surprised to find how much more profit lies in merely perfecting the eligible players in catching passes at odd angles and under trying conditions, and in the practically unexplored field of providing protection after a completed pass. Here, I think, lies a football El Dorado well worth a few expeditions of discovery. The pass offers a bewildering variety of combinations each of which has possibilities for prearranged manœuvers, and I believe the greatest field for innovation in the attack lies in getting ineligible men down to serve as interference for the receiver.

West Virginia, which in 1919 had the best forward-passing attack developed up to that time, got it by spending fully a half-hour of every day's practise in merely passing and receiving at queer and unusual angles. They succeeded in dazzling and bewildering most of their opponents from

the opening whistle, and won, generally, in the first few minutes of play.

There is a beautiful object-lesson in the value of perfecting one play rather than half-learning a dozen, and it is so hard to attain smoothness and precision in a season of eight or ten weeks at the most that no time can be spared for experiments with freak formations except at the expense of effectiveness in those which will surely be required.

I try to have a pretty definite idea of the repertory before the season begins and as soon as I can I eliminate every unpromising play and reduce drill to those which justify themselves at once.

The trick-play part of the repertory ought to be reduced to an absolute minimum, partly because the value of a trick is usually confined to one or two attempts in a season, and partly, too, because of the shortage of time available for drill. The trick is essentially an emergency weapon, and cannot be allowed to interfere with the far more necessary task of developing the so-called standard plays which are the core and strength of all sound attack. Again, a trick is nearly always a new play, or a sharp variation

on an old one, and, being nearly or quite unfamiliar to every player, requires more practise than the more usual combinations, in which almost everybody has had some previous training. So that even a few tricks, properly prepared, will cut heavily into practise time at the best of it. The more I see of teams touted as tricky the less I lean toward that side of the game, admitting, of course, the occasional exception which proves the rule.

One swallow does not make a summer nor quench a summer thirst. The spectacular quality of a successful trick is apt to influence the hasty observer far more than it should, and more than one well-meaning coach has simply tricked a good team to death after watching a shoe-string succeed on some isolated occasion.

My personal preference inclines a little toward the compromise device of a series play, which by combining in succession two straight or nearly straight attacks can give them the surprise value of a freak formation without departing from the sound principles on which straight attack is founded, and with a minimum of special trick-drill during practise.

The series idea is old, of course, and rightly

discarded as a substitute for signals. Indeed, the very fact that under the old rules it was possible to use a prearranged succession of plays without any signal except that of starting shows how radically the game has changed and how diametrically the disadvantage has been shifted from the defense to the attack. A series of more than two plays is hardly conceivable under present rules, but as an occasional surprise device I think the two-move series play may justly claim a place in modern tactics. Certainly it serves the ever-present need of drawing the defense out of position, if properly conceived and executed, and I believe that its possibilities have not begun to be realized.

Of course no team is equipped without the best punting and drop-kicking or place-kicking plays which the personnel permits, and if there is nobody on the squad who already knows how to punt and kick, somebody must be trained to do it after the best fashion possible, and this training means something very different from merely trying for distance and height and accuracy. A punt needs eleven men just as much as an end-run needs them and a kick that carries thirty-five yards with proper covering from the rest of the

team is better than one of fifty or sixty yards without it, every time. In point of sober fact, the average length of punts in championship games is under forty yards, or very little above it, and it is no terrific problem to train a man to kick that far with a fair amount of height and precision. The real difficulty is to instill the necessary speed into the punter and to correlate his play with that of the ends and the line. I am never content to see the ends get down fast and surely on a punt but insist on the line being very near abreast of them, and I think this is only safe policy.

After a week or two of preliminary drill in kicking I find it best to practise it from behind the line of scrimmage under conditions as closely similar as may be to those of actual play, with the opposing line trying all it can to hurry and block the kick and the receiving back doing his level best to escape the forwards. I have watched too many good punters waste their skill because of inadequate coöperation and seen too many phenomenal kickers go to pieces in the stress of play not to feel pretty sure that it pays to teach the kicking game, like everything else, to all eleven men in the line-up.

Success in the kicking division of the game is largely a matter of taking infinite pains with petty detail. Ten men on the team can play pretty good football, for example, in mediocre shoes, but the eleventh needs the best footgear to be had. If only one man on the team can have first-class shoes, it must be the man who punts. To show how far this detail can be carried, and with what good results, it is worth while to tell why Eddie Mahan stopped a service game in France to pull out one perfectly sound shoe-lace and insert another. This looked foolish to some of his team-mates until Mahan, who was as careful as he was brilliant, explained that the discarded lace was of the round type and that he had found it conducive to inaccurate direction, while a flat lace helped him in getting his kick off true and straight.

Drop-kicking and place-kicking should also be practised from actual scrimmage, although it is never possible to give a man all the training he needs under such conditions, and perforce he will have to do a great deal of his drilling by himself. But it is always worth while to let somebody pass to the kicker and to give him as much chance at real playing conditions as possible. Besides

this, he should be encouraged to use every spare moment of field-practise time at his particular exercise, and to keep it up as consistently as he can during the spring and summer. Nearly every great drop-kicker, like Brickley or Murrey, to name two of the most brilliant performers of late years, was made perfect by patient practise in spring and summer. But there is always a peculiar mental strain on the drop-kicker which needs practise conditions to enable him to keep his nerves steady at the critical moment when he is called on for what is about the most individual play in the game.

It certainly ought to be obvious that a reliable kicker from placement is a necessary feature of every team which hopes to score touchdowns, even though the value of such goals has been cut to a single point. It is never safe to assume that goals after touchdowns are so easy as to need no special training, although every year games continue to be lost because some coach has clung to that mistaken belief.

With smooth-running standard plays, a well-learned forward-passing attack, a reliable punter and drop-kicker, and a few thoroughly practised tricks, any team has the ammunition which a

skilled field-general can make the means of a winning offense, and not all of these things plus all the brilliant inventions of football wizards since the game began can accomplish what they should unless somebody knows how and when to use them.

V

A REAL QUARTER-BACK MUST HAVE BRAINS

THE winning football team is always built around a man who has brains to think with and uses them principally for that purpose. The man who comes nearest to filling this description is the right man for the quarter-back position, even though he may have fewer physical qualifications than some other candidate, or even though according to the old idea he may seem more valuable in some other back-field position. The modern game, with its premium on direct passing, makes it possible and profitable to use the quarter-back really as a third half-back or second full-back so far as the offense is concerned, and putting a line-smashing runner at quarter is very far indeed from wasting him. Heretical as it would have seemed to a player of the nineties, it is plain truth to say that the designations which distinguish the men in the back-

field are anomalous and unnecessary. Under modern conditions the four backs, on offense certainly and on defense to a large extent, are completely interchangeable—all carry the ball and all work in interference without much regard for their denominations in the line-up.

I want to underscore this primary difference between the old and new football. The old rules which required that the ball be handled on every play by two players in addition to the center, made it necessary to choose for quarter a man who could be absolutely trusted to handle the ball cleanly and quickly whether or not he could think, run, catch punts or do any of the other things which are vital in the modern game. This resulted usually in the selection of small men for quarter-back positions simply because such men, having a better correlation of nerves and muscles than bigger ones, could handle the passes swiftly and faultlessly. Nothing else mattered so much as this. No play could even start, unless the quarter took the pass from the center and got it to the runner, and no amount of strategy or running ability or strength could offset a weakness in this one respect.

Under the new rules the quarter need not ever

take a pass from the center. That sounds absurdly broad, but it is literally true, and between a man who is incapable of holding the ball but still can think fast and straight, and one who never misses a pass but whose brain is sluggish or dull, I should put the first player at quarter every time. Of course the quarter who can think and also do everything else is the perfect player for the job, but I cannot put too much stress on the fact that under present-day conditions, it is brains that make the quarter and the rest is only secondary at best.

Because the modern game not only puts a premium on brains, but demands them as the first essential. Physical strength will not gain ten yards in four downs except when the teams are ridiculously ill-matched. Even the innovations in play—the forward pass and the direct-pass—do not make up for the addition of five yards to be gained with only one extra play in which to gain it, especially since the abolition of so-called mass-play, in which the runner was dragged or pushed or even hurled forward by half his team. The attack, under these conditions, is handicapped before the teams take the field, and nothing in the world but that use of

intellect which is loosely called generalship, will make up for this extra burden.

The old system of quarter-back play—which in essence was a sort of hasty grab-bag performance—disappeared when the new rules opened the game. It is no longer possible between teams of even approximately equal merit to batter along two yards at a play and smash out touchdown after touchdown merely by virtue of a few extra pounds of weight in the line or backfield. This becomes steadily truer as the goal-line is approached and the defense may safely move up closer to the scrimmage-line. The quarter-back has to find something better than beef to gain the final twenty yards which are more important than the other eighty by the difference between victory and defeat.

This means simply that the first and greatest problem of every coach is to find his quarter-back and teach him what he is on the field for—to think—to think straight, first, and fast next, and to play the game third. Before the season, if possible, the men should be gotten together where they will be more or less at their ease and where the self-consciousness which is always a barrier between coach and player will be reduced to a

minimum. Here the men should be encouraged to talk, and the coach should use his ears more than his eyes.

Because the quarter has to be a commander, his voice is more important to his team than his legs. Any man who has ever attended a political or business conference will remember hearing a sound proposition advanced in a voice and manner which hesitated and faltered and actually invited contradiction, and he will also remember unsound propositions advanced by men whose voices rang out commandingly and carried conviction and even enthusiasm. No quarter-back can succeed without inspiring confidence in his team-mates and a weak or uncertain voice is a fatal defect. No man who drawls or stammers can play quarter nowadays, and if there is no born order-giver in the squad it is the coach's first job to make one out of a man who has the primary requisite of brains.

With the selection of a few men who show some ability to think and to talk as if they knew what they were saying and meant it with all their might, the job of picking a quarter is under way. The choice of quarter-back material is the first thing to be done, and from the moment it is made,

the coach should be with his quarter-backs for at least a half hour daily beside the usual field work. There is no other player who has to be taught generalship, and teaching this is absolutely vital. There is never time enough for as much of it as the men need, and no man can absorb it as fast as some instructors try to teach it—that is, by waiting till they have a team chosen and playing and then calling generalship a finishing touch and drumming it into an overwrought, excited boy, a few days before his major games. Generalship is a finishing touch, true enough, but not in that sense, by the widest of all possible margins.

Thinking quickly, under the tremendous emotional strains of actual play—and they are little less exciting than those of warfare itself—is a matter of practise like every other human art, and the quarter who is trained first in the thinking end of his duties and last in the mechanical side of the game, is, other things fairly even, the winning quarter. He does not have to stop and remind himself that he must think; he thinks first and without effort because he has practised it.

Generalship, so far as the coach is concerned, begins with the choice of quarter-back material

and from that point on, the coach's strategy is expressed and manifested in the play of his pupils, not as automatons, but, if the phrase is allowable, as alter egos, playing on the field, under their own orders, better football than the coach would play himself in their places.

It is possible to teach generalship on a blackboard or a table with checkers, but my personal preference has always been strongly in favor of the field itself. I take an odd half-hour after dinner in the evening or at any other convenient time to meet quarter-back candidates on the field. I begin with broad theory. I divide the field into three zones, which I call for convenience: defensive, neutral and enemy territory. Defensive territory lies between our own goal and thirty-five-yard line. Neutral ground runs from there to the enemy thirty-yard line—or to roughly the line from which our drop-kicker can be reasonably relied upon—and enemy country from that point to the hostile goal.

I avoid what seems to me an error rather common in coaching practise of laying down fixed and immutable rules concerning the respective style of play in these zones, but I try to make the men see what general policy is, in the main,

best adapted to each position, without—to repeat—giving the fatal idea that at a certain yard-line and on a certain down, a certain play must be used. It has always seemed to me that this brand of generalship should win a commander at least brevet rank in the enemy forces, for any opposing quarter or coach is as capable as I am of laying down in advance the obvious play for those given conditions and will be prepared for at least that obvious play, whether or not he is prepared for anything else.

It is manifestly true although very commonly overlooked that it is by position on the field and not by mere possession of the ball that the attack and defense are distinguishable one from another. A team "kicking out of danger," say, is certainly not exactly on the attack, although it has unquestionable possession of the ball. But I differ from extremists who maintain that a team in this position is exclusively on the defense and I think that the play, season by season, will bear me out in the contention that the rightly generalled team is always dangerous whenever it has the ball, regardless of the yardage which separates it from a score.

A beautiful instance of this distinction is found

in the Penn State–Pittsburgh game of 1919, in which Penn State, with the scrimmage line within ten yards of their goal, and the back actually on or behind the goal-line, executed the incredible play of a forward-pass from which Higgins, I think, was enabled to run ninety yards for a touchdown. The quarter who conceived this move is the kind of a player I should always like to have on my squad, although most critics condemn him hotly for the danger of the scheme. The point is here: Pittsburgh had a habit of running the ball close to a score and losing it on downs, out of which they developed a sort of defensive scoring-play which consisted of putting ten men or so on the actual scrimmage-line and leaving only the defensive full, forty yards back, to receive the inevitable punt.

Let me stop here to point out that this is exactly what cut-and-dried strategy leads to in properly coached defense. Pitt was able to count on the obvious play and anticipate it both as regards the chance of blocking and the chance of missing the catch.

But the Penn State quarter outgeneralled and outguessed this clever defensive-offensive combination by doing that thing which the loft-dried

policy of most strategists condemned as impossibly unsound, and which naturally became for that very reason the soundest thing he could have done. Win or lose, I should back that player hard. He knew that although his situation was dangerously defensive, he was still in a position to score, and that is, after all, the distinction which I try to drum into my quarter-back from the first day of the season till the bonfire night. The rightly managed team is always dangerous and always trying to score, even when it is playing defensive football at the last gasp. I submit that nobody ever won anything worth winning without trying to do it, and I should rather have one team win that deserved to win, than ten teams win by luck—which, after all, is the underlying hope of the safe-player in every game in the world.

Our field, then, is roughly zoned as described, and we consider the various general divisions of play best suited to each. These are familiar to everybody who follows football closely enough to understand its vocabulary. For instance, we agree that in general it is better to try no running play deep in defensive territory unless it holds out a fair hope of substantial gain or unless, of

course, it is necessitated by the position of the ball with regard to the side-lines or goal-posts. This is very far indeed from saying that a punt on the first down is the inevitable play for these conditions. To my mind it is exactly the reverse and I should play it, if I were a quarter, only often enough to avoid a foreseeable monotony of policy—which, after all, is the one fatal and hopeless defect in offensive football. The punt becomes, of course, advisable on the third down and almost inevitable on the fourth, but the first two plays, it seems to me, should never be such that the enemy can count with any degree of certainty on their being adopted. That, at almost any stage of the game or any point on the field is the essence of sound football strategy as I see it.

For instance, there can be no dispute as to the risk of playing a forward-pass in this zone, but I can see still less ground for debate on the proposition that when the defense is clearly in such a position that the pass will be difficult to stop and has an added percentage of chance to succeed, it is not only permissible but mere ordinary common sense to choose it, and the right quarter is the one whose eye and wits will see and use such

opportunities and whose hands and feet will carry them into execution.

Again, line plays in this territory seem generally inadvisable because they involve the ever-present risk of a fumble and at the best gain relatively little yardage and exhaust your runners profitlessly. Yet, under the right conditions, a line smash becomes admirable—as when the opposing center has elected to play back and the forwards have been widely spread by the threat of or actual attempt at open play. Here a good quarter sometimes shoots even a series of line plays, with as much gain and no greater risk or exhaustion than he would pay for a punt or a pass.

Similarly, in neutral or mid-field territory, the repertory broadens rather in the relative safety of certain plays than in the number of plays which are conceivably permissible. Roughly speaking, in midfield territory, the lid is off, and the quarter may choose any style of attack which his judgment recommends, always remembering that this does not mean to indicate or preclude any particular play for which the conditions of the individual scrimmage are favorable or otherwise. The one sin for which I find it hard to

forgive a quarter is the statement that I told him to use a certain play at a certain point.

As the enemy territory is approached, the repertory actually broadens again, especially in point of safety, although most coaching policy narrows it to so-called scoring plays, for which of course any half-coached opposition is as prepared as the attack. Between teams of anything like equal strength I have never seen these scoring plays score. By this I mean the smash-bang style of line-play which for some unknowable reason is supposed to be more effective when eleven players on the other side are waiting for it and in the most advantageous position to stop it than when they are utterly in the dark as to what is coming and far less able to stop it after the play has been revealed. To my mind the place for these line-attacks is wherever and whenever the defense is clearly unprepared to defend against them, both by its position on the field and—more important—by its mental attitude.

About the only law that I lay down for enemy territory play is that other things not qualifying the rule the direction of the ball should be toward the post and away from the side-lines. Even here I find myself suspicious of anything to which the

word obvious can be applied, and the only reason I consent to a fixed principle like this is simple mathematics. The attacking team has the ball, say, on the twenty-yard line near the side of the field, it is second down with eight yards to go and the teams are evenly enough matched to keep the gains well down. Here, even at the price of letting the enemy know what I am going to do, I have my quarter-back under orders to point his play inward, and I consider this what might be termed a two-play combination, of which the first is no more than a preliminary move for position, and the second (the third down) is the equally obvious attempt at a field-goal. Obviousness, here, ceases to be the unforgivable sin. It is the price we pay for a fair chance of a score. And here again I qualify by saying that this rule relaxes as the score permits. If we were far enough ahead, the quarter's judgment might be to double-cross the defense by going to the outside on his first play, or by trying a forward pass or other kick-formation play on the second, or, even more, if we needed a touchdown to tie or win, he would be required to take the winning chance rather than the safer one.

I am passing lightly over a great deal of work

here. The quarter learns to consider his three zones with his eyes open and his brain clear. He now divides the field longitudinally and learns something about the minor necessity of considering his side-lines in much the same way—always avoiding the fixed, dogmatic orthodoxy which, to my mind, is exactly what no quarter should ever be allowed to pick up, much less be taught. It is almost comical to watch some teams approach the side-lines and send a play inevitably outside, losing a down for the empty privilege of having the ball brought back. I have heard men defend the idea of sending these plays beyond or very close to the line on the ground that the defense is not expecting them, completely denying to the defense any faint glow of elementary intelligence. If I could only find that sort of opposition against which to plan my attack, the football season for me would be a joyous vacation.

We consider as many as possible of the contingencies which may affect basic principles under any given condition, such as the wind, the sun, the state of the field and the mental and physical qualities of the defense. Given the right conditions, for instance, the kicking game, supplemented suitably by a reasonably varied

running attack, can be made the best conceivable offense, as for example the Harvard team of 1913, with which Felton's punting and Brickley's amazing accuracy with the drop-kick were the substance of a formidable and consistently winning attack which wind and sun might have made impossible or doubly dangerous on any given occasion.

Again, your quarter must remember that what is good policy on a dry field may be fatal on a soggy footing. On a wet day it is worth some sacrifice, I think, to keep the ball well out of home territory on general principles. Many a good game of football, too, is played on a bad field—one which slopes a little or has a slight undulation or a soggy belt or corner, and it is only common sense to train your quarter-back, from the beginning, to take such things constantly into his calculations and to govern his policy so as to gain from their advantages and offset their defects. I have seen otherwise fairly adequate quarters run the ball uphill when they could as easily have sent it down. I have seen fast but none too sure-footed runners sent out at a wet spot with an acre of fairly dry ground to choose from, and so on. This is not set down

here as strategy, but as an illustration of what strategy ought to consider.

In this sort of preliminary work, it is very easy to fall into the error of inculcating the idea that success rests with the attack and need not concern itself with the defense, except as something to be outguessed and outplayed. I always try, from the very beginning, to make the quarter-back constantly aware of the fact that his opponent is in the main the beginning point of his signal, that his attack is dependent on the degree to which he can adjust it to the weaknesses and peculiarities of the defense, that to win, in short, he must persuade the other fellow to help him play the game. There are always twenty-two men on the field and too many attacks have been built on the theory that there are only eleven.

By ingraining this principle from the very beginning, it is easy to keep even an excitable quarter-back from acquiring the miserable trick of calling his signals with his head down and the teams still on their backs. I have stood on the side-lines and watched good coaches yell at their quarters to start a signal almost before the whistle has stopped, and wondered what those unlucky teams might have done with a little

training in the ordinary common sense of looking before you jump.

It is almost twenty years since I stood on the end of a Princeton line and watched Charlie Daly, behind the Army forwards, stand coolly and unhurried while he looked us all over and made up that razor-edged mind of his just exactly where he could hurt us worst. That was beautiful policy even in the bad old days of smash-em and jerk, but in these times when football has been reduced to the scientific precision of chess and swordplay, it is something more than mere policy.

I teach the quarter from the first to consider hypothetical conditions of the defense he must face and to think as swiftly as may be—for speed never hurt any football player—how to extract the utmost possible profit from each situation he is likely to encounter. I begin at the center and work out toward each wing, and study the usual forward arrangement, letting the candidate work out for himself as far as he can the right move for any given combination. Football games and big ones have been won and lost because a quarter noticed which way a guard or tackle happened to be standing. The center, nowadays, may elect

the roving game or may play up in the line, and no quarter-back can use the same attack against both styles of defense. Personally, against the roving center I favor a line-attacking policy always varied enough to mask the coming play.

The guards on defense may play high and use their hands or they may be down and try to knife through or grab legs, and no attack can afford to ignore the difference. The tackle may play in close or be wide, and thus encourage the outside-tackle stab or discourage it, as the case goes. The ends also may play close or moderately wide and may smash in at the interference or come in high, using their hands and trying to crowd the play inside or even to tackle the runner. The quarter-back must certainly consider both styles of defense. It is easier to get outside of a smashing end and safer to go inside of a waiting one, and it is the quarter, rather than the runner, who should adapt his play to meet the crisis.

Proceeding to the defensive back-field positions, we apply the same practise and try to foresee as many as possible of the combinations we shall have to meet. Are some of the backs playing close to line? Or have they been teased back

by the threat of a pass? Is the punt-catcher edging up or lying back? Every one of these men ought to exert a direct influence on the choice of every individual play sent against his team. For instance, I should like a quarter who would notice when the punt-catcher had edged in so close that he could not get back to receive a quick kick and who would have the courage to send that quick kick over his head even though the orthodox rule of thumb frowned horridly on the policy. Or if he saw the left half-back creeping up to reinforce the line which, suppose, had been wavering a bit under a series of tackle plays, I should want him to know it and to know that a forward pass into that half-back's district ought to be productive, and so on with every one of the defensive players.

Now this sort of thing cannot be learned in a minute, nor can even a clever and willing player teach himself to draw the right conclusion from each observation unless he has trained his brain to be almost automatic by deliberate and continuous practise. Taking thought will never replace training. A large part of the headwork on the field can be made subconscious, and there is no way of drumming anything into the sub-

conscious brain except the good old, tiresome method of doing it over and over again.

At this point the quarter-back should have gained a bird's eye picture of his job. He should at least know what he doesn't know, or better, what he has got to learn, and if he has been rightly handled, he is on edge to begin learning it. It is not as easy as it sounds to distract a healthy young animal from the physical joy of the game and persuade him to consider football as almost another course in the curriculum which, very probably, appeals to him in the light of a necessary evil. A clumsy beginning may easily lóse the interest of a promising candidate by giving a wrong idea of this skull-practise, and it is almost necessary to dilute theory with enough action to quicken interest rather than dull it. Rightly handled I find that a good quarter will enjoy the intellectual side of his play much more than the physical and will take a far keener pleasure in a properly conceived bit of strategy than in a brilliant individual performance.

I try to do this teaching very largely by taking actual positions on the field and outlining hypothetical conditions—I say that it is supposed

to be second down with so many yards to go and the defense playing thus and so, and ask the candidate what play he would use at that place and time, ask why he would use it, and if he is wrong, prove it to him, not as a teacher but as another player. This system I use straight through the first month at least, and usually I can see the effects of it in each successive day's practise, as the quarter-backs become more and more relieved of the effort of stopping to think and think straight and fast by something almost like instinct.

This separate drill—I dislike the word because it implies too much of the disciplinary flavor which I detest—is the chief and almost the only instruction in so-called generalship. There are too many things and too many men on the field during actual scrimmage to stop for theory, except when there is a flagrant mistake which calls for instant correction, which I usually administer by taking the offender out of the play and later going over his sins in private. But the scrimmages in practise and even more in practise games, are of course a vital feature of strategics. They merely are not interrupted for discussions concerning only the quarter. It is well to keep

a careful and accurate chart showing every play, with as much as possible of the governing conditions of each, and use this in subsequent skull-practise. It takes one very good man to keep such a chart, but it is about as important a job as anything else in the coaching line.

I think it is better to wait for these corrections when based on actual play against other teams until the Monday following the game. By this time the quarter-back has had opportunity to recover from the physical weariness which is inevitable and which makes it hard to fix his mind on errors of commission and omission which are purely mental. He needs to rest his body before his brain is worked, and I have seen good men grow sullen and stubborn under reproof or criticism which was perfectly just and wise except in mere point of time. The idea that one should strike while the iron is hot applies, I believe, mainly to blacksmiths.

From the outset the quarter-back should understand that on the field he is in command so far as the choice of play is involved and not even the captain should overrule his judgment in this respect. The idea that a quarter is out there to do what he is told if the heavens fall is responsible

for nearly all poor generalship. It seems to me absurd to train a field-leader to look to some one on the side-lines for direction in actual play, to develop a quarter-back to be blindly obedient to a fixed set of laws.

At the very best, no human being can hope to anticipate more than a few of the more commonplace situations which the quarter will have to face. And the minor variations in even those may vitally alter the wisdom of any set policy. The quarter-back who has been systematically discouraged in the use of his own judgment certainly cannot be fairly blamed when in some unforeseen emergency he looks blankly over to the side-lines and grabs desperately for some preconceived play designed to fit the circumstances.

The elaborate and really amusing precautions adopted to prevent side-line coaching would not be worth a thought to any man who really wanted to break them, for a child can invent a simple and undetectable code of signals which would enable the coach to call every play in advance. Some coaches, perhaps, use this sort of a system. I know of none, but I do know that I am in no position to run a team unless I am out on the field behind it. Any one who has watched

a game from the end of the field will have observed that the play and the positions of the players are remarkably unlike what they seem to be from the side-lines, and nobody could accurately judge the state of play at any given moment who was not very close to the scene of the scrimmage. I might know twenty times as much football as my quarter-back, but he would be a better judge of conditions than I would, and they could abolish all their rules against side-line coaching without making a particle of difference to me—beyond the fact that I would enjoy the game better with fewer of these restrictions which imply a spirit essentially contrary to what seems to me the fine, clean ethics of this man's sport.

Even the quarter-back is not capable of absorbing and interpreting anything like all of the circumstances which should affect his choice of play. The game lasts only sixty minutes and there is scant time for conferences or mediation, and even a quick-thinking player has only one pair of eyes. I believe that it is possible to use the other twenty eyes on the team to supplement his. I try to teach this much strategy to every player. I want him to know enough about the

underlying principles of the game to realize what information will help the quarter and what will merely confuse and bother him. A guard, for instance, knows whether his opponent is playing in or out on the defensive and he also should know that the quarter can use this information and may not see it for himself. A half-back can tell whether or not he is covered on an open play, and it is certainly part of his job to inform the quarter.

Hints of this sort ought to be given to the quarter during the periods when time is being taken out, when the entire team can bunch up privately for just such conversation. The coach's trick is to teach the men what to tell and what not to tell. I have seen instances of excess in this respect which were much worse than no information at all.

I put a good deal of time and thought on the seemingly trivial detail of calling signals. I want them to ring out sharply and clearly, in a regular cadence which in itself conveys the idea that the quarter knows exactly what he is doing. Of course, this also helps to avoid the natural tendency to stress the vital number in the series by which the play or the start is designated.

But the main reason is to save the quarter's strength and voice and to keep the morale of his team at the pitch at which only a fighting, carrying command can hope to hold it. Every man on the squad is taught that it is up to him to hear the signal and understand it without repetition and that to call for a repetition is equivalent to soldiering at the quarter's expense—a contemptible thing which nobody would do willingly or knowingly.

I remember one otherwise excellent team which had a miserable season of it simply because this minor point was ignored by its coach. It was the exception to hear only one signal for a play and even grand-stand spectators commented in my hearing on the tiresome habit of the players in calling for repetitions. In one important game—and at the climacteric, too—the play elected was a rather dangerous trick, based on the hope of catching the defense flat-footed. By the time the signal had been thrice called the entire defensive team was watching the one player who was supposed to be unobserved at the far side-line and the result, of course, was a total failure. To be sure the right quarter would have changed his play, but this one had been so accus-

tomed to repeating signals that it did not occur to him that this case was different from the others.

Another one of my pet doctrines is that the right attack is a fluid thing, not merely a series of individual endeavors—that one play should fit into the last one and lead up to the next one, that it is not enough to gain four yards on a down unless some advantage of position is also derived. Thus, often enough, I have to hear a shrewd quarter criticized for some individual play which looks foolish if considered alone, but which was the finest sort of strategy if considered in combination with the next move.

A good quarter-back knows how the time stands and exactly how the score stands and governs himself with a close attention to them both. Here the hopelessness of loft-dried strategy is apparent. The course which was admirably suited to the first quarter becomes, often enough, sheer folly in the fourth, and the method which would be excellent policy for a team well in the lead is suicidal for one facing defeat, and so on as far as you like. It seems queer to be defending a position like this, and yet I venture to say that more than one authority on the game will

take issue with me and protest that the first and greatest duty of the quarter is to obey orders.

I think it is impossible for one coach to give much attention to the strategy side of his work during the actual practise scrimmages. They are his only chance to observe and correct the mechanical side of the play. He must watch too many other players to put his mind on what the quarter is doing. Hence the importance of the chart and the quarter-back drill at odd times. But in essence the winning football is played by the quarter-back and played not with his hands or his feet, and still less by an outsider beyond the side-lines sending him wireless instructions. If a coach has developed a quarter-back who stands on his own feet, thinks with his own head, talks as if he knew what he meant and meant it hard, and also plays the game mechanically with a reasonable amount of skill, he needn't be much afraid of the quarter-backs he will meet, for there are mighty few who come close to filling these qualifications.

VI

RUNNING THE TEAM

ONE man on the team is taught generalship. I have tried to suggest how he is taught. It remains to show a little of what we teach him, always qualified by the proviso that it is not a rule of conduct that is laid down, but merely the underlying principles on which he is to choose his own course on the field.

Assuming opponents of equal strength, we presuppose that we have lost the toss and that the other side, following wise policy, elects to kick off, there being little wind. We presuppose, too, a fair kick-off carrying to the ten or fifteen yard line. Here, at the very beginning, your quarter has a decision to make. Shall he catch a kick-off or call on another back to do so, when the ball would otherwise cross the line? I generally advise catching and running back every such kick, unless it carries across the line on the fly. The moral effect, I find, is better when the actual clash is not postponed and the highly keyed

emotions of the men are given immediate outlet. Stopping after the tensity of the kick-off while an official puts the ball in play at the twenty-yard line seems in my experience to produce a certain perceptible let-down which sometimes spells disaster. Furthermore, a loose kick-off is about as safe a proposition as loose dynamite and no team should ever be allowed to forget that it is perfectly legitimate for any player on the kicking side to catch it on the fly and run with it, or to fall on it behind the line for a touchdown. In 1916 a momentary failure to realize this simple fact cost Princeton a touchdown and a game to Yale, when a kick-off which any one of three Princeton backs could easily have handled was allowed to bound about until a Yale player caught and carried it over the line.

We presuppose again that the quarter has made this decision soundly. That is, that the ball did not carry over the line where good policy would have been to touch it down for a touchback even at the risk of a let-down, simply because the chance of running it out of danger is rather slight in such circumstances. It is my own policy, I might say here, to post the best and fastest back-field man in front of the goal-posts on what

is known as the full-back position, on the kick-off formation, merely because a majority of kick-offs go straight and carry far enough for him to be the receiver. When I have a particularly brilliant runner he is instructed to take everything he can reach, on the theory that the run-back is an offensive play and should be developed as such with the same runner carrying the ball on as many occasions as conditions permit. I mean that it is well to accustom every player on the team to doing his particular bit in this play just as in any other planned offensive measure, and that the best runner with the ball is the logical man to be trained for that part of the play, while the others are trained to protect him and not to run themselves.

For instance, the Harvard team of 1919 had in Casey a remarkably brilliant runner with the ball, and he was played in the center before the goal-posts on all defensive kick-off formations. He had also clearly been coached to take every kick-off within his rather liberal reach and his fellow-backs had just as plainly been taught to make way for him. The system proved its merit against Princeton—Harvard's hardest game that season—by giving Casey a chance to run with a

kick-off which had been purposely sent far to the left, and which he caught after a hard run, but which let him come back almost to mid-field and put his team in a position to begin an attack which scored the points necessary to tie.

I am something of a crank on this kick-off matter, and feel very strongly that it is one of those features of the game which are commonly far underestimated in their possibilities for advantage and disaster. It is easily possible to run back a kick-off as far as the forty-yard line against first-class opposition, given the right amount of drill on the play, and the right science behind that drill. Without going into deep detail, it is enough to say that the theory is to group as much defense about your runner as proves possible and to get it there as soon as possible. Also, I find it worth while to have every man know exactly where the runner means to go.

Another kick-off detail is the possibility of an intentionally short kick designed to regain the ball, and the forwards should be trained to break this up by having it tried on them until they know what to do and how to do it without having to stop and think it over. One little trick is to

teach the center to keep a narrow watch on the kicker and the position of the ball on the tee, since very often one or the other will telegraph this play in plenty of time to stop it.

In 1907 this short kick-off worked against the best team in the country for a gain of thirty or forty yards, putting the kicking side in a position to score in the first ten seconds of the second half. It is a play used far less frequently than it deserves and a hard one to stop, although now that the field has been shortened and the kick-off is from defensive territory, it has more risk than it once involved for the side which plays it.

We assume that the kick-off has been caught and carried back to the thirty-yard line, which is frequent enough to be considered commonplace. Here your quarter's real job begins in earnest. What play is he to use under normal conditions —that is, with the defense fairly distributed against either kick, pass or running attack, the ball fairly near the center of the field and playing conditions being average as to footing, weather and sun?

Remembering that the first necessity of the attack is not to give itself away in advance, I believe that the kick formation is far the best

preliminary to whatever opening play be chosen, and the man in the kicker's position must be one capable of running, punting or passing. It is useless to go through the motions of a fake kick with your fake kicker a man known by your opponents to be unable to do anything but run, and unless you are playing opponents who have already beaten themselves they will know almost as much about the potentialities of your men as you do. I have often laughed at the ostrich system which put a fast runner back on a kick-formation when everybody in the stands knew that he could not have punted twenty yards to save his life. There must be what I call a threat man on every team—a man who can at least make a bluff at doing everything he may be supposed to do from the kicking position from which the three main divisions of the attack can all be started. This man must go back on this opening play and what he does ought, generally speaking, to be what he can do best and surest, except that I do not like the first-down punt any too well.

I like to see the game start with a run to the end from the kick formation, cutting in or out as the play of the end determines. This play, well masked by interference and built about a

fast man, will be apt to gain, especially at the start. If it does not gain, it is at least as safe as a punt in respect of possible fumbling, which is always a vital consideration, deep in home territory. In this respect it is actually safer than a play from close formation. In the main there are three possible results from this play. It may lose a yard or two; it may gain a bit more and it may lead to a really substantial run. Of the three the second is most likely to happen. We assume, first, that from six to eight yards have been gained.

Here, other things not altering the wisdom of the policy, I should repeat the formation and probably try a stab at the point in the line which looked most promising, always choosing that play which in practise had shown the least likelihood to yield a fumble. But right here I want to remark that the idea of fixing a team's policy of attack on the theory that it is more important to avoid a fumble than to gain distance will lose more yards and more games and produce more fumbles than the opposite system of assuming that a well-coached team does not fumble, in home territory or anywhere else. Fumbles will happen and we try to minimize the resulting

damage but we can't afford to sacrifice any trumps to do it. The way to limit the damage of a fumble is to avoid the fumble, and the people who believe that the only play in deep defensive territory is a punt seem to forget that punts have a bad habit of going wrong just about as often as any other play, and also that when punts do go wrong they have a nasty trick of making more trouble than any other blunder in the book.

I don't like the safe-player who hopes to win by the other fellow's dropping dead. He collects a dividend just about as often in football as he does in anything else. Punting is perhaps as safe as any other play in home territory, provided you have a reliable passer at center, a cool-headed kicker with distance and direction and speed, and a line that will give him shelter long enough to get his kick well off. Also, however, you must have wind at least neutral. Given all these things, plus a pair of ends able to get somewhere near the receiver, and a reasonable amount of luck, you will get the ball back past the center of the field and take the defensive no worse off than you were at the kick-off. That is about all you have to hope for and you are fairly fortunate if you get it.

Suppose that on the second play there is no gain, and it is third down. Regardless of distance left to be gained, my policy would be to punt, obvious or not. The only sound alternative, in my scheme of play, would be an end attack, which if it failed would leave me in the bad plight of having to kick on the fourth down and of having to call, for the punt, on the same man who had just failed at end and who would surely be out of breath and perhaps a bit shaken by the tackle.

Generally speaking, it is poor policy to call too heavily on the brilliant player, the threat man. I dislike to see a man used to carry the ball on the play preceding a possible necessity for him to punt or drop-kick. This is what I mean by the combination-play phrase—the ability of the quarter to fit one play into another with quite a few unobvious circumstances clearly in mind. Too often one sees the same player sent at the end on a fake-kick run, on the first down, and sent back to punt on the next or even used twice in succession before he is expected to kick.

Again and again I have seen ordinarily reliable punters miscue abominably at the start of a

game, by kicking short to the side-lines simply as the result of being momentarily shaken by a previous strain. It is almost always true that a failure to gain distance involves a harder tackle and a harder jolt than a successful run, and even a sturdy player will be apt to show the effect for a few seconds afterwards.

Remember, too, that this so-called threat man is often of more use as a threat than as an actual performer, and that you cannot afford to waste him, so to speak, too early in the game nor to weaken his main function in favor of a lesser one.

If there is a punt on the third down and no catastrophe intervenes, we are on the defense technically and the matter of attacking strategy needn't interest us for the moment.

The probabilities, however, favor a gain again on the second play. It happens more often than not, game after game. Assume, then, that we have a first down somewhere beyond the forty-yard line. This juncture is the hardest test for the quarter. There are two main possibilities. He may continue the kick formation and try a forward pass, to which there are two serious objections. First, it is apt to be foreseen, and, sec-

ond, it is always a fairly risky play in home territory or near it, although, as we shall see, far less so than some strategists believe. Broadly, I should not use it unless either the position of the defense made it almost necessary or offered a pretty fair assurance that if not completed, the pass would be grounded. The big value of the pass, as a play, lies rather in its combination effect, than in its intrinsic gaining possibilities. I use it to gain ground, of course, but if I knew that it would never gain me an inch, I should still use it about as often as I do, merely to keep the defense worried and spread.

The other main possibility is to change now to the regular running formation which may be one of any number of almost standardized forms. Barring the possibility of a quick kick, playable only if the punt-catcher has been drawn well out of position, a running attack should be started here, using the basic idea of masking the next play as well as gaining on this one and always taking care to spare the punter if he must punt on the next down in case of a failure on the present one.

Besides the regular running and kick formations, it is wise to use also a so-called open forma-

tion designed to spread the defense. These open formations are manifold and various and any coach works them out to suit his ideas and his men, but the principle underlying them all is to deploy at least two men on the line of scrimmage or directly behind it, well out on one of the wings, acting as a dangerous threat and forcing the defense to open up enough to cover them. If they are so covered, they are used only as feint and the play is sent elsewhere, either by running attack or a forward pass. If they are not covered they are necessarily in a beautiful position to receive a pass.

In general, my idea is to use three main formations along these lines, and I find that the system works out fairly well against almost any sort of defense. But I am very far indeed from laying this down categorically as the only sound style of football. By varying these three formations, the ball should, supposedly, be carried through neutral into enemy territory. Of course, any one of a hundred different things may stop the advance short of the boundary between neutral and enemy ground, and any such emergency puts a special problem before your field-general, which he must be trained to meet with his wits.

The simple fact that football is no more than a tissue of unforeseeable emergencies of this sort, goes to prove the folly of trying to anticipate them all and to lay down in advance a set policy for the meeting of each one of them. Good strategy, on the part of the coach, begins, I can never say emphatically enough, in the development of a field-general able to think for himself under any conditions. But it is possible to draw out of the larger experience of a coach the foundation for successful solutions of problems more or less certain to be encountered in every game, and to lay down, broadly, a few almost fundamental strategic principles.

For instance, as I have said before, the real difference between sound play in the different zones, lies in the relative safety of certain plays in these different territories, rather than in the number of plays which can properly be used in any one of them. I believe that the forward pass can be tried with a fair margin of safety anywhere past the defending thirty-yard line, and I know that it is often safely and brilliantly used inside of that mark. But to me the pass is primarily a threat or a scoring play and the team that can successfully work it is going to be in a

position to score sometime during the game. In fact, the pass might almost be compared to the putt in golf, in so far at least as it is true that ability to complete a pass means ability to score a touchdown. A deadly putter in golf is always dangerous and an unsteady putter is always open to defeat by an otherwise inferior player. In the same way, a team which can complete a forward pass is always formidable on the field, even though it may exhibit serious defects in other lines of play, and a team which cannot hold its passes is always under a serious and often a fatal handicap.

The Harvard eleven of 1919 is an excellent illustration. In its three final games, against Princeton, Yale and Oregon, its ability to complete a forward pass as a scoring play spelled the difference between victory and defeat in two cases and between defeat and a tie in the third. In two of these games, moreover, the Harvard team was conspicuously outrushed by its opponents, and in the game against Yale it failed to gain a single first down during the entire second half, while Yale was able to carry the ball consistently for long advances, even to within a matter of inches of a touchdown. The difference be-

tween the winning and losing elevens on that occasion lay absolutely in the fact that Yale clung to the old idea that a scoring play means a smash into the center of the line, and tried it with every man on the Harvard eleven obviously expecting it and set to defend against it, whereas Harvard preferred a scoring play which even when anticipated by the defense, offered relatively little chance of a successful opposition.

The prevalent idea that straight line smashes should be saved for the final twenty yards or so undoubtedly grows out of a failure to realize that it is safety which distinguishes between the different zones of the field, and that the proper conception of the game would call for a wider repertory near the opposing goal than away from it. A very little thought will show anybody that whatever can conceivably be called a safe play in the center of the field, becomes by just so much a still safer play within twenty yards of the opponents' goal. Failure, which must always be considered as a possibility, means less disaster on the eighty-yard line than on the fifty, obviously, and success, which should always be considered first and most, means, just as obviously, so much more.

There exists, as an inheritance from the old days when a forward pass was an unpardonable sin against the rules, a distrust and suspicion of this play, and there is also a rather pathetic scorn of it in the minds of old players who feel that it is an unworthy condescension to methods borrowed from the despised—and very mistakenly despised—game of basketball. I have heard good coaches, recognized as authorities on the game, speak of the pass as an ignoble attack, and refer longingly to the good old days of yard-by-yard, bulldogs and beef. They may be right. The old game may have been better, it may have been more manly and it may have been more fun. There is no doubt whatever that it was more dangerous, and if to invite danger needlessly is an attribute of manly courage, why, then, this idea is sound enough.

But whether or not the old game was better, the fact certainly remains that we are no longer playing it, that the rules not only discourage it, but positively forbid it, that the mass plays about which it was constructed have been excluded from the permissible repertory under heavy penalties. Therefore, even though one may sigh sadly over its disappearance, one must coach his

team to play the game under the present rules and do his best to utilize their possibilities of defense and attack.

The old game put the burden of proof on the defense, from kick-off to whistle. Almost any sort of an attack could be relied on to batter out a yard or two on a play, with massed interference and pushing and pulling, hurdling and hurling all permitted. It was a coach's problem to find a way of stopping that battering attack in time and once his team had the ball, he was able to breathe more easily and watch them return the compliment.

The new game puts the burden of proof wholly on the attack. Almost any reasonable defense will stop an attack which does not succeed in outwitting the defending strategist.

It never worries me at all to watch a team of mine being pushed back across neutral territory by repeated old-system plays. I know that sooner or later one of two things is pretty sure to happen—either the attack will stop itself from sheer exhaustion or somebody will fumble because he is tired. But put one of my teams down on the field against a forward-passing attack, even reasonably well conceived, and I am nervous even

when we are well down in opposing territory, so long as the enemy have the ball. Even against some of these teams, I feel fairly easy in my mind because I know that if their forward-passing attack succeeds in carrying them down to within a few yards of a score, they will promptly put it back on the shelf to be used only in mid-field territory, and produce the good old scoring plays that are warranted to do anything except to score.

The new game is really built about the forward pass just as the old game was built around mass-play, and there is no way of avoiding one any more than there was of avoiding the other. You may refuse to use it yourself, if your prejudice carries you so far, but it will certainly be used against you, unless you have the luck to find another coach as pig-headed as you are. And they are getting scarcer every year, as more and more college organizations display the bad taste of asking for results instead of excuses.

First of all, the idea that the forward pass is essentially a shoe-string play, heavily loaded with danger for the user, is wide of the truth. Even moderately well executed, it is among the safest plays available. Consider its possibilities

and this becomes self-evident. There are only three things which *can* happen to a pass. It may be caught and held, or carried for a substantial gain. It may be grounded and waste a down. It may be intercepted by the enemy and lose the ball. Analysis of the season's play of any fairly good eleven will show that the most likely of these three events is that the pass will be harmlessly grounded, that possession of the ball will not change and that the only loss will be that of a down. Again, the same analysis will demonstrate that twice as many passes are completed as are intercepted, and with a moderately competent passer this becomes even more one-sided in favor of completion.

It is certainly self-apparent that any play at all risks the wastage of a down and more remotely the loss of distance and the ball. I watched one team which was conservatively coached to avoid the risk of the forward pass and stick sanely to the safe and sure close attack, fumble four times in the opening three minutes of its biggest 1919 game, and saw three of these fumbles recovered by its opponents. Yet the man who coached that team believes to this day that the forward pass would have been riskier.

Anyway, the danger of the pass is no more than is inherent in every attacking play, and it possesses this one element of safety which is not found in any other, namely, a fumble retains possession of the ball without losing an inch of territory. Show me another play of which that can be said, and I will use it instead of the pass.

I submit that on its face, the pass is safe. It is also pregnant with scoring possibilities from any spot on the field, and these possibilities necessarily increase in direct ratio to the approach toward the opposing goal. For two reasons; first, there is less distance to be covered by the runner who recovers the pass, and second, and more important, the defense necessarily draws in as a score becomes more imminent, which, of course, is the ideal situation for the forward-passer.

Again, there is no other play which possesses the virtue of the pass as a threat, and let me repeat that this new game is essentially a game of feints and thrusts. Even if the pass itself gains nothing in yardage, it gains heavily in the effect on the morale of the defense and on the physical arrangement of the defending players. No coach, however handicapped by want of good

passers, can afford to spot his opponent the tremendous value of the threat involved in the pass.

I think that there is only one play which is essentially confined to hostile territory, and even this might be used on some special occasion in neutral ground beyond the fifty-yard line. I mean the lateral pass. Here, if you like, is a play which is as dangerous, at least, to the side which attempts it as to the side which defends against it, and my own experience has shown that the percentage is actually in favor of the latter. To discuss a play so infrequently adopted might be beside the point except that it serves to accentuate the value of the forward pass as an alternative which is always available under the conditions when a lateral pass might possibly be good policy.

The lateral pass is another inheritance from the old game and represents, to my way of thinking, the first attempt to get the advantages inherent in a forward-passing attack while that attack was still prohibited. It has on its face a considerable number of very serious disadvantages. First, it must be made on the run, with the passer not only off his balance but under the

necessity of avoiding tackles from the front and back and side, and also it must not be made until the tackle is very imminent or the intending tackler will have a chance to go after the receiver. This means that the pass cannot be the accurate, steady, straight-line affair which the forward pass has become, but must be a hurried lob which at its best is inaccurate and at its worst is disastrous in the extreme.

Again, the lateral pass is made usually, while the passer is still behind the scrimmage line or very close to it, which means that the entire defending eleven is charging in the general direction of the ball and most of the attacking eleven is moving away from it, with the added and vital risk involved in having no secondary defense to recover a fumble or tackle a runner who recovers one. Mark the difference in this respect between the two plays. The forward pass is made from a point at least five yards behind the line of scrimmage and the passer after making it is left as an emergency defense against possible disaster.

Moreover, the whole attacking eleven is faced and moving in the direction of the ball and the defending team is faced and moving away from it. Still more, an intercepted forward pass may

often cost the team which intercepts it a considerable yardage, since it must be carried back toward twenty or more players of both teams with a strong chance that the runner will be crowded or tackled before he reaches the line of the former scrimmage. I saw one pass brilliantly intercepted in 1919 whereby the interceptor cost his team twenty yards of very vital distance. At the very worst, an intercepted forward pass loses the ball and a little ground, but it is so rarely that any real disaster follows that I consider the possibility actually negligible.

Carrying the comparison a little farther, we find that the lateral pass if completed must still be carried by the runner if anything is to be gained, and that unless the play is very cleverly masked by a feint, the chance of this gain is rather less than of a running gain after a completed forward pass. In other words, your lateral pass at its very best gives a runner a chance to gain from the scrimmage line, with at least two defending players still in a good position to bring him down, while the mere completion of a forward pass involves a substantial gain, and the runner is apt to be already out of reach of anything short of a brilliant tackle.

The difference becomes still more serious when the possibilities of failure are considered. The lateral pass, if incompleted, is anybody's ball; the attacking side has at the most only one man anywhere near it, and this man is the one who has missed the catch and is moving at full speed and with heavy momentum away from the ball. Against him at least two men and probably more from the defending side are moving fast and straight toward the ball, with their eyes able to see exactly what has happened and where the ball is going—even, as events have repeatedly proved, with time to decide among themselves which one of them shall go after the fumble and which shall attend to the job of interference. Even if the attacking back recovers the fumble he has lost distance, whereas a failure at the forward pass involves no such penalty.

Summing up, then, I can see no place for the lateral pass except where a forward pass acquires some special defect, as, for instance, when a forward pass would have to carry over the goal-line and if incompleted would go as a touchback and lose the ball and twenty yards or so, regardless of down. Here, in spite of the risk, a lateral is sometimes worth while and effective provided

it is perfectly masked so that the defense is not able to cover both men immediately. It also becomes relatively less unsafe because the chance of a touchdown after a failure is more remote, with the necessity of a full-field run to make it.

One of the positive laws, therefore, which I lay down for my quarter-backs, is never to use the lateral pass inside their own fifty-yard line and not to use it even beyond except as a scoring play, unless some very peculiar situation offers an unusual chance for success and gain.

There has been a great deal of criticism directed at Kempton, the quarter-back on Yale's 1919 eleven, for having used a lateral pass against Princeton on his own thirty-yard line with four minutes to play and the score tied at six to six.

I differ very sharply with most of this criticism. Kempton was absolutely right in trying a play which would not only be unexpected, but which had, as he thought, a fair chance of the substantial gain which was necessary if the game was to be won. He was obviously not trying to delay the play and save a tied score; he was trying to win, and nine times out of ten it is that mental attitude which wins games and the con-

verse which loses them. In order to break the tie Yale had to gain thirty yards at least and gain it quickly, to bring Braden—a dependable and amazingly long drop-kicker—within shooting distance of a field-goal, and Kempton was not only justified in trying to accomplish that, but should have been criticized if he had not.

His mistake—and perhaps it was not wholly his, either—lay in choosing the wrong play at the right place. He had as much chance of completing a forward pass as he had of completing the lateral, and there would have been practically no danger from the former, whereas when Neville failed to reach him with the ball Raymond, Garrity and Scheerer of Princeton, were all in a position to see the play, and to reach the runners and the ball. Raymond, indeed, was in the act of tackling Neville as the pass was made, Garrity was able to put Kempton quite out of the play after the fumble, and Scheerer had all the chance he needed to pick up the loose ball and run for a touchdown, protected by McGraw and one other Princeton man, making in all five Princeton players near enough to the ball to have a direct influence on the play, with only two Yale men close enough to participate at all and both of

those men under a heavy disadvantage from the beginning.

It is easy to be a prophet after the event but my policy would have been to teach my quarter that exactly this result was to be feared and even expected from this play in this position. We sometimes use lateral passes, but only when, as I said before, there is some special reason for preferring not to attempt the forward pass, which is usually far less dangerous and far more promising.

Another general principle which every quarter ought to have ingrained in him as the substructure of his field strategy is the method of gaining a short distance with practically absolute certainty and safety when this gain may mean the loss or winning of the game itself. Again and again he must face the necessity of gaining two yards or less on a fourth down, in enemy or deep neutral territory, when a goal from the field is inadvisable or impossible. No quarterback goes on the field properly equipped unless he is provided with a play for such an emergency and unless he himself is convinced that the play is right.

Any one who watches football consistently will

be impressed with the almost universal preference for a drive directed at or near the center of the line, under these conditions. Time after time one sees good quarters take the ball themselves for a push behind the center or call on a line-breaking back to smash at center or guard when two yards or less are vitally needed and the loss of the ball would be costly or there is some other reason against an open play. I can't understand this brand of strategy. Under these circumstances nearly all defensive play will stiffen up the line, partly because of the very probability that the attack will strike there and partly, perhaps, because it is instinctive to expect a play along the shortest line between two points. A play at center with the quarter carrying the ball will gain, often enough, in midfield when the defense is not expecting it and has spread to stop open plays, but it has positively no momentum behind it and is about as weak an attack under close-play conditions as one could invent. The center is deprived of any great charging ability by his need to pass the ball, and the quarter is too near to him to get any start himself. Unless the center is strong enough to carry the opposing center on his neck

there is no chance of anything except a fruitless piling-up. The use of a line-breaking back in a play at the center is a little better, but far from the right idea. Here, to be sure, there is some momentum and the guard may be able to force a slight opening, but the odds are distinctly on the defense. All center plays, it may generally be stated, are good only when they are unexpected. Of all possible attacks they are the simplest and safest to defend against, and of all possible times they are least useful when the defense has stiffened and narrowed.

There is a play in very common use, sometimes called a drive off tackle. All football men are familiar with it, but it may be well to say that it consists of a straight thrust toward the tackle with one of the half-backs carrying the ball and the other half assisting the end in taking the opposing tackle in or out as his position may suggest, the full-back and quarter-back massing on the tackle as interference. There are many minor variations of the play, and the system of the defensive end play may require a back to take care of him, but in the main the idea is as above.

Whenever this play is executed even with a

moderate degree of precision and the offensive line gets the charge on the defenders even for a moment, there will be a gain of at least three yards. The man who stops the play will have to be the defensive full-back, the loose center or a defensive half-back, or, in some defensive combinations, an end, or several of these men together. If the play is stopped in its tracks with a gain of less than a yard or two, it must be stopped by the defensive tackle, end or, under some rare circumstances, the guard, who has managed to knife through. The play cannot be stopped for less than two yards' gain by any defensive back, however quick he may be in coming up to the line. It is so built that two men can be thrown on every defensive lineman involved, with two interferers left to take care of the defensive end when necessary or the defensive full or half-back as they come up. This means that if the play is to be held for less than a two or three yard gain, one forward must manage to stop two, which is certainly a strong presumptive advantage for the attack.

Of course there is no irresistible play in football any more than in chess, but this tackle thrust has in itself an inherent strength not

visible in any other combination of line play that I know of, so long as the objective is rather a sure short gain than a possible long one. Under these conditions the quarter-back should be instructed to use a play of this character in preference to any other, always provided that there is no peculiar defensive situation to alter the case.

A play of this type, properly impressed on the quarter for use when two yards or so meant everything, would have won game after game which I have watched lost or drawn by the head-down smash-at-center policy. And I have also watched it win a good many games in which the quarter had not only been taught how to think but had been soundly grounded in what to think, which, after all, is the sum and substance of teaching generalship.

I remember one Vanderbilt–Sewanee game at Nashville which ended in a tie at six to six, although Sewanee twice carried the ball to within fifteen yards of Vanderbilt's goal-line and lost it there on downs after four plays had gained only eight yards or so. On both occasions the final play needed those two yards and was sent straight at the center where it got nothing or less. In 1909 Missouri defeated Kansas twelve

to six at Kansas City; Missouri's score representing two field-goals and one touchdown, which was made on the only occasion when Missouri got within so-called striking distance of the Kansas goal-line, after recovering a blocked kick. Missouri scored this touchdown on the fourth down with three yards to go by rolling a play outside of tackle, and the momentum gained by the play carried the runner at least five yards beyond the goal-line. I instance this case because throughout the game Kansas had showed a defense superior to Missouri's attack, and outweighed the Missouri team by nearly twenty pounds to the man. It is only one of many cases in which an attack certainly not superior to the rival defense has managed, by the use of this simple play, to gain a short but vital distance which almost any other means of advance would probably have failed to yield. I saw a weak Cornell team repeatedly hold a much stronger Pennsylvania eleven for downs within their own five-yard line, in 1919, simply because the Pennsylvania plays were sent at the center of the line where they could be piled up by the same men who had proven that they could not pile up plays anywhere else. In the second half of the

1919 Yale–Harvard game, Yale had shown an attack which proved too much for Harvard to stop for fifty straight yards, and which carried the ball to the Harvard one-yard line or even inside of it, with one play left for a touchdown. During this march Braden, the Yale full-back, had been averaging at least three yards on cross-bucks and the other Yale backs had been getting even more on plays at tackle. Yet, with defeat as the penalty for failing to gain a matter of inches on the final down, the play was sent straight at the center where fully half the Harvard eleven were massed to meet it. It failed and I submit it richly deserved to fail. It made me think of a similar play twenty-odd years earlier when the teams were just reversed. Harvard had carried the ball to the one-yard mark by a brilliant and varied attack, and with the fruit of that labor within reach by any one of the plays which had led up to the situation, elected to send Shirley Ellis straight into the center of the line, where the Yale team, three deep, had actually braced themselves against the goal-posts and where it would have needed a more powerful motor-car than existed in that remote day to have put the ball across the line. The Yale defense

could have stopped the plunge, probably, but the goal-post saved them the trouble.

This sort of football is understandable only on the theory that the quarter-back either cannot think or has been trained to shut his eyes and obey orders laid down by men who have permitted outworn traditions to obscure their powers of reason. The game always makes me think of politics in so far as it shows the same tendency to stick with dogged tenacity to empty and outworn fetiches on the one side, and to kick over anything remotely suggesting precedent, on the other. The winning player and the winning coach, like the useful and constructive statesman, must learn to distinguish between what is merely old and what is really venerable. It is not always an easy distinction to draw in either pursuit, but one must manage to draw it or pay the price.

Present-day football, in which the attack must do more than merely overcome the defense, involves a problem practically missing from the old game. I remember one great game in the old days when a quarter-back went so far as to dispense with signals and actually announced in advance of every play, just who was to take

UNIVERSITY OF MICHIGAN

the ball and where he was to take it. To be sure, he must have had a heavy margin in his favor, even under the old conditions, but to-day such a thing is practically unthinkable, as any one knows who has watched the daily clash between first and scrub elevens. Here, with the scrub players able to foresee the attack, it is not often that a tremendously superior Varsity can gain as consistently as it will against a rival eleven able to beat that same scrub by many touchdowns.

The problem of the modern football strategist is first and always to outwit the defense. If he can find no way of doing this, he is going to be beaten, unless he has a top-heavy superiority, man for man and team for team, and even then he will win by a far narrower margin than the difference of the teams should warrant. Every team is developed, not to beat far inferior teams in so-called practice games, but to beat some one or two rivals very apt to be at least as good as it is and often decidedly superior, year after year. This means that to have a successful season, the coach and field-general have got to meet a defense approximately equal to their own, with an attack which is fighting not only that defense

but a fixed and heavy preference on the part of the rule-book.

The only possible way of overcoming the disadvantage which the new game wisely imposes on the attack, is by mixing that offense with brains. The margin of victory is always a mental one nowadays between teams of even reasonably equal merit, and the element of luck, to which so many unexpected defeats and triumphs are attributed, is more often than not a mere manifestation of this mental difference between the teams and their leaders and teachers. It is not the lucky eleven which wins games, but the slow-witted eleven which loses them.

More and more, football comes to resemble, not basketball, as some disgruntled critics declare, but the very antithesis of that and any other game of sheer physical skill and speed—chess. Outwardly, football seems far away from the ordered hush and deliberation of the chess divan, but people who see only the outside of games don't win many of them. In essence, football to-day is chess reduced to terms of living figures and rapid movement, but still vitally an affair of keen and planned strategy, in which no move can be wasted and no move can be considered

except as intricately linked into all those which precede and follow it.

I like the word fluid as a description of this new science. The strategist who thinks of each play as a unit, a complete and independent affair, is lost before he begins, exactly as the chess player would be who moved his knight to a convenient square without knowing why he was doing it or what he would do next. Just as in chess, too, the attack is not wholly an affair of one player, but almost as much a matter of choice with his opponent. It must be not merely a well-conceived campaign, but a campaign susceptible of instant variation to meet an unforeseen emergency or an unexpected line of defense. The winner, in both games, is the man who can tease and worry and provoke his antagonist into helping him attack.

The defensive side of football is sharply divisible into tactics intended to check the attack of the enemy and strategy designed to make the most of defensive positions and to combine with sound defense a possibility of attack. It always helps me if I keep this distinction clear in my own mind.

The common idea, of course, is that possession

of the ball puts a team on the attack and that its opponents are then necessarily on their defense. A contrary—and I think equally mistaken—doctrine is that only position distinguishes between the two, and that a team is purely defending when it has the ball deep in its own territory. I take the middle ground which declares that possession and position are both factors to be considered, with the qualification that the attack always inclines toward the team which holds the ball, wherever it is. This is seemingly self-evident in that no score can be made without possession of the ball, and that the very word attack involves the idea of scoring and the word defense implies the prevention of a score as the immediate objective.

I believe that a defending team must always consider the possibilities of combining attack with defense, just as an attacking team has to bear in mind the chance that its attack may suddenly be thrown on the defensive. I try to formulate a policy of defense, therefore, which leaves as much chance for attacking developments as possible, and to evolve a plan of attack which shall minimize the risk of being transformed into a defense.

For instance, if my team has the ball on its own ten-yard line, it is manifestly on the defense as far as position determines it, and on the attack as regards possession of the ball. Its play, while offensive in name and form, is defensive in fact, in that its aim is rather to avert the danger of a hostile score than to make a scoring advance itself. The problem before my quarter-back is to choose an attacking play which will make as sure as possible of a defensive object—the removal of the ball from dangerous territory, whether or not this is accomplished at the cost of losing possession of the ball.

Here, position being obviously more important than possession, sound tactics would nearly always recommend the exchange of the one for the other, and it is hardly worth while considering any play except a kick, although in the hundredth case, as already instanced from the 1919 Penn State–Pittsburgh game, a purely attacking play may have tremendous possibilities.

Again, holding the ball on the home thirty-five-yard line, on fourth down with two yards to gain, the problem is at least as much one of defense as of attack, and the play must be chosen even more with a view to its effect on the defend-

ing situation resulting from it than with an eye to an advantage to the attack. Here, it is a question of risking putting the enemy on the attack both as regards position and possession, as against the certainty of putting them on the attack in point of possession but on the defense in point of position. A reasonably good kick means that the next scrimmage ought to find the enemy in the same relative position we now occupy, while the loss of the ball on downs on our own thirty-five-yard line is a very serious affair indeed.

And yet the object of football is to win, and although I have heard a good deal to the contrary, a good defense does not win games, it merely helps not to lose them. The obvious play in this situation as in the other is a kick, unless the state of the time and the score makes it desperately necessary to attempt a last-resort device on the faint hope of turning the tables.

On the other side of the question, suppose a team holds the ball on its opponents' twenty-five-yard line, fourth down and two yards to go, the offensive position outweighs the chance of being on the defensive as regards the ball, and a running play necessarily risks relatively little.

The essence of this is merely that it is never wholly possible to separate attack and defense, even in mid-field. The defensive phase of offensive football is or ought to be constantly in the mind of every quarter-back. For instance, when he holds the ball at mid-field, well to one side, the reason against trying a forward pass to what we call the long—meaning the open—side of the field is purely defensive, based on the possibility of the pass's being intercepted by the enemy, in which case the long side increases the possibility of a run-back. To my mind the attack and defense are too intimately related at all points on the field to make it wise to distinguish sharply between them, and I prefer to draw the distinction between the mechanical and mental phases of defense.

Under the new rules the defense has been given an advantage which instead of evening the game, has put the harder task on the attack, which in the old system had a heavy advantage. This makes the tactical side of defensive play less important than it used to be, merely because the new attack has to gain twice as much distance in one-third more plays than the old game provided, and has been shorn of its basic

principle of massed offense, as well. It is easier to stop this new attack short of a score than it was to check the old battering-ram march down the field, and except where there is a marked inequality between the teams, it is no longer possible to score touchdowns by mere offensive tactics unsupported by winning strategy.

Nevertheless, a team which is markedly weak on the defense will lose games, because there is always an element of strategy even in the most unbrilliant attacks, and inability to meet and check with reasonable success all possible forms of offense will naturally constitute the inequality to which I have just referred.

It is a two-sided job to teach defense, under my system. I have to teach tactics and mechanics to every man on the team and to the team as a whole, and I have trained every man, too, in some elements of defensive strategy and to induce the field-leader, captain or quarter-back and preferably both, to apply the same reasoning intelligence to the defense which the latter must bring to the attack.

However, it is the mechanics which are most essential in this respect, for the very reason that teaching strategics from the attacking point of

view inevitably teaches them more or less effectively as a means of defense, and a quarter who thinks when he has the ball is pretty sure to think when he has not.

Of course the basis of all defensive play is tackling, and this feature of the team's training must be given close and patient attention until it has become second-nature to every man on the eleven to tackle truly and hard, according to the needs of his position on the field. This has already been covered, but it deserves as many repetitions as it can get. The team which cannot tackle cannot play football.

The rules permit players on the defense, as regards possession of the ball, to use their hands in a way forbidden to the attack, and it is rather a ticklish job to teach them to take full advantage of this permission without rendering them more or less prone to using their hands illegally on the attack. Rightly handled, however, the very team which is most effective with its hands in defensive formations is the very team which is least apt to offend in this respect when on the attack. Once an aggressive eleven learns to connect the want of the ball with the use of its hands, there is little trouble. A fight-

ing team is nearly always a team which has little tendency to break the rules, in this or in any other way. It is the eleven which lacks fight which strains the rules as a sort of substitute.

Defensive play is, like offense, largely standardized in its elementals. In the main the idea underlying defense is to interpose a man or two men at the point where any foreseeable attack is apt to strike, just as the aim of the offense is to throw a superior force at the point of impact. The pass is eternally a clash between these two conflicting ambitions, and a team has to outguess its enemy in the one direction almost as effectively as in the other, if it is going to win against relatively equal physical ability.

I think that the best defense is one which avoids too much devotion to fixed rules and which adapts itself readily to any attack it meets or deliberately misleads that attack by offering alluring invitations which, if accepted, will find the advantage lying with the defenders. For instance, the value of the roving center is not in a continual use of that style, but in its combination with the standardized type which keeps the center in the line. A roving center is neces-

sarily an invitation to attack his vacant place in the line, and when it is good policy to draw attacks there it becomes good policy to adopt that fashion of play. In mid-field, to mention a specific case, it is not a bad idea for the center to drop back not only to tempt the opposing play into the line but also to protect against open or forward-pass attack which is not only more common in mid-field but more apt to yield a spectacular gain, there as elsewhere. It is not possible, of course, to lay down any policy as sound for all conditions, but it is true that most teams are coached to play their open and passing offense in mid-field territory and to grow more conservative as either goal-line is approached. As I have said I disagree with this policy but in teaching defense I try to take its frequency into consideration. Again, a roving center playing near his own goal-line not merely invites the attack which will come toward the center position regardless of invitation in nine teams out of ten, but makes that play almost certain to gain distance which might not be important farther away from the line, but is a serious business here. In short, to defend against a type of attack which most teams rarely use as a scoring play, he leaves

an opening for the style which is almost universal.

In the same, it seems to me poor policy to adopt a set style of line-defense for the tackles, guards and ends. Obviously, as soon as the attack learns that it has only one sort of line-play to expect, its problem is appreciably simplified. A high-playing guard is more useful in mid-field than on his own twenty-yard line or inside it, simply because he usually invites attack and is less able to stop it without a short gain, while the advantage of being able to get into the defense against open plays or passes is not countervalent, these plays, I repeat, being nearly always shelved as the goal-line is approached.

The tackle positions need the two best defensive players on the team. A good tackle can be of more service to his team than any other line-man and a bad one will beat his team single-handed often enough. The position needs men who can move quickly, who are especially good at using their hands, who have strength and weight, too, if possible, and above all, grit and intelligence. The moment your tackle weakens, you will see your end and guard weaken with him every time, and a fast, aggressive, heady

player here, will offset a degree of weakness on either side of him. It becomes all the more important for this man to avoid any fixed position or style of play. He must not help the enemy by letting them be sure for a moment that he will be wide or close on any particular play. And whichever position he takes, he must be trained to see that he can exchange it as the attack may indicate. Rightly used, the tackle can worry the offense more than any other two men. Wrongly used, he is their one best target. And he is always wrongly used when trained to be in a set position throughout the game.

In the same way, any attempt to teach the end to play by rote is to make him ineffective. He, as much as the tackle, must vary his defense to meet each situation that he faces, and must vary it anyway to avoid helping the attack in disposing of him. I like to see an end able and willing to smash interference or come in high, using his hands and waiting for the runner or crowding him in for the tackle. One absolutely invariable rule for end play is that under no conditions may he go across behind his own line. There is no situation in which this is anything but unsound play. On each wing the end is the flank of an

army, and his one never-changing duty is to see that that flank shall not be turned. The instant he deserts his post he leaves the most dangerous spot uncovered, and any end who exhibits this tendency will surely invite the opposing quarter to use some device to tempt him out of the way and shoot a runner past his wing for real distance. I have seen otherwise splendid ends lose their teams game after game by this one defect.

Back of the line we have four men, all more or less interchangeable on defense as well as attack, and under the new game their part in the former is heavily increased and complicated. There must be at least one of these four who can catch punts and carry them back. Muffing punts, as one brilliant commentator and player puts it, is the surest way of losing a football game, although I submit that nobody needs to investigate any method of losing a game because they are all too easy to need any study. But it is not only the immediate probability of disaster which makes a muffed punt so dangerous. Even though it is recovered without much loss of ground, the team loses heavily in its morale. It must feel a sure confidence that when its de-

UNIVERSITY OF MICHIGAN

fense requires its enemy to kick, that kick shall not become an offensive measure. When the ball is lost on such a misplay, the effect is instant and disastrous. I have seen good teams lose their fight simply because their punt-catcher negatived their attack and defense alike by loose work at his special duty.

This same player serves as the last line of defense, and must be as sure on open-field tackling as he is on punts. If he is not, he will lose games merely by weakening the confidence of the men in front of him.

There is curious psychological quirk to be seen in this phase of the game. Superficially it would seem that a team which knew it had a sure tackler in the punt-catching position would be less concerned about letting a runner reach him. But exactly the reverse is true. Watch a runner brought down with a fine, smashing tackle by this man, and you will find his team-mates feeling a kind of shame for themselves and a deepened resolution to prevent a recurrence, while a missed tackle here excuses all the men responsible for the need of that tackle and leads straight toward the demoralization which will help it to happen again. Men in the first

trenches always fight better when they know that the third-line is impregnable, instead of weakening because they are sure of it. It is men with nothing behind them who give way first.

I attach so much importance to this part of defense that in practice scrimmage I see to it that an occasional runner gets loose for the last man to tackle under actual playing conditions.

Of the three remaining defenders, one is indispensable behind the line as secondary defense against line plays and also against short forward passes. The other two, stationed behind the ends, serve as the main defense against forward passes and secondarily against end runs. It is impossible to prescribe any set method of playing these two defensive positions, beyond laying down an absolute rule that neither of these men may ever leave a longitudinal zone for which he is to be held responsible, and which zone is usually that territory lying on his side of the center of the line.

Behind most spectacular gains the close-observing eye will detect a history of an end or a half-back drawn away from his position. Game after game is thrown away simply because the half-back has been insufficiently grounded in the

basic business of sticking to his place. It is always hard at the best of it to train a keen player not to follow the play. He must follow the ball, and it is very easy for him to confuse one with the other. Even men who know perfectly well the risk involved in leaving their fixed posts cannot resist the temptation to cross over when they think they see a need and a chance for their services, but it is better to get along without the extra defense which is obtained when the man is right in order to avoid the sure catastrophe which happens when he is wrong.

The new rules, in return for their favor in the matter of downs and distance, have heavily complicated the task of the defense by the innovation of the forward pass. In spite of the offensive value of the pass as threat or actual gaining play, the advantage still lies visibly with the defense. This is especially true against attacks formulated by men who fail to give the pass its just consideration and who use it very much as they use open and trick formations—as an emergency play, a sort of long-shot to be tried when everything else has failed. I think, indeed, that when the pass has come into its own, when we have developed its real attacking possibilities, espe-

cially in the way of protecting the runner after the catch, the defense and attack will stand on a fairly even footing.

The advantage which the defense enjoys at present is really due to an almost universal failure to develop the full potential values of the permissible lines of attack, rather than an inherent quality of the game itself.

However that may be, the pass as at present used is exceedingly troublesome for the defense, physically and mentally. It is a hard play to stop short of a substantial gain and even when it fails it tends to open the defense and expose it to other lines of attack. It is the most valuable single feature of offense because of this dual quality. The problem of defending against it comes down to a play of wits between the attacking strategy and the defenders.

It is mistaken policy to try to do too much. It is better to pay a yard or two for the certainty of having your half-back firmly in position to break up a wide run or a pass instead of running the risk of a big gain by sending him up too fast on the play. The main job of the two outside half-backs is to stop forward passes, each in his zone, and to stop wide runs in addi-

tion to this. The rest is incidental. Of the two, the pass presents the more difficult puzzle, since it is always possible for the attack to send two or more men into each half-back's zone, eligible and in position to receive the pass and yet so far apart that it is next to impossible for one defender to cover them. This means that a sound defense against the pass demands that the roving center and the defensive full-back reinforce the wings.

Every coach has his own idea of forward-pass defense, and there is no way of laying down a general law on the subject, but I think anybody who knows the game well will admit that at the best of it, the play is a mean one to beat, and that its ever-present menace exerts a strongly disturbing influence on defending strategy. The bright side, for the coach, lies here: As with any other gaining play, the best way of evolving a defense is to develop the best possible attack. The teams which are conspicuously adept in the use of the pass are nearly always almost as good at breaking it up. There is a very sound and simple reason behind this.

When a team is learning to use the pass offensively, its scrub is being beautifully schooled

in defense, and the better the attack, the more likely the defense is to improve. What the scrub knows the Varsity is almost certain to know, even if the men are not continually being interchanged as I think they should be. More, where the Varsity succeeds with the pass, the scrub is perfectly sure to try it when it has the ball, and a coach who develops good passers on the Varsity can't help developing pretty good ones on the scrub.

The converse is just as true. Those elevens which are weak in the use of the pass are almost sure to be weaker still in their defense against it. As they encounter the play in practise, it is not formidable and they come to assume a totally unfounded contempt for it. When they meet a brilliant passing attack in a game they are not only unable to check it, but are quickly disconcerted and bewildered.

One of the most curious things about the game is the stubborn refusal of some coaches to draw this obvious inference. The very teams who suffer most frequently and most heavily from the passing attack are always those whose leadership is most obstinately opposed to the incorporation of that offense as anything except a sort of last-

UNIVERSITY OF MICHIGAN

resort shoe-string affair. One would imagine that after being soundly beaten two or three times by teams obviously inferior in every other respect but brilliant with the pass, a coach would conclude that the play had a value as well as a danger for him, but for some reason he seems only the more convinced that he will have none of it.

On the attack it is necessary to teach one man to think for the team and himself. On the defense, every man has to be taught to think effectively and fast, although even here the captain must exercise a general supervision of individual play and is to that extent a defensive strategist. Variations in the attack are infinite and never wholly foreseeable. No coach can lay down a defensive policy which will hold good against more than a few of the most common types of offensive play. The old idea of equipping a team so that all it had to do was to remember what it had been told was never wholly satisfactory even in the days of its general use. Under the ever-changing conditions of modern play, it is simply out of the question to attempt it. The coach can and must teach the elements of sound defense to his team as a team and as individuals.

He can and must give the captain a little more knowledge of the principles as applied to individual defensive play. But first and last he must teach his men to think for themselves under playing conditions and to see that as far as possible they think right.

This can only be done by drilling them in the fundamentals, such as those which have already been touched upon and then testing them out by confronting them unexpectedly, again and again, with perfectly strange formations on the part of the scrub. It is not essential that these formations should be sound or should have any remarkably deceptive play behind them, but they should be sufficiently unusual in their arrangement to accustom every man to finding himself suddenly facing unfamiliar conditions. These freak formations will quickly show whether or not a man is really thinking, and will also show whether or not he has a sound idea of safe and effective defense which he can apply quickly to unusual conditions of attack.

It is practicable to teach a quarter-back a great deal about attacking strategy, and more about offensive tactics, but on the defense, the only course is to develop every man's ability to

think. The old rules allowed twelve men to play every game—eleven on the field and one, at least, on the side-lines. The new game demands that the thinking shall be done inside the lines of play and it is just as much a part of a coach's job to fit his team to do it as it is to see that they can tackle and interfere.

Of course, the universal custom of "scouting" in enemy camps makes it possible to know something about the styles of play likely to be used by opposing teams and to prepare some specific defensive formations to meet them. But at its best this is not overly reliable because every coach knows that alien scouts are watching every game he plays and takes steps accordingly, so that a team which has been taught to expect a fixed attack from some particular rival is very apt to find itself faced by something quite different, and to be hindered rather than helped as the net result.

Frankly I don't like scouting any too well, although it is probably inseparable from the game. Certainly there ought to be a limit on it—a limit imposed by the scout's own common decency rather than by any of the inevitably futile attempts at prohibitory legislation which

blacken the game and needlessly complicate its playing. I have always felt, for instance, that the elaborate precautions against side-line coaching during a game, besides being utterly unable to prevent what they seek to prohibit, convey a sort of reproach, as if football were, like baseball, a game in which a certain amount of cheating is desirable provided only that the cheater evades detection, like cutting a base, for instance, when the umpire is not looking.

Outwitting an opponent is one thing and deceiving an official is something very sharply different, and I hate to see any suggestion that this latter type of deception is sufficiently common in football to require all sorts of police measures to discourage it. It would be far better, I believe, to let any coach communicate as often as he pleased with his team than to shadow the ethics of the game with this plain hint of unworthy deceit. I am the more willing to concede the privilege because I know that any team which depends on the side-lines for its generalship is three-parts beaten in advance. And I believe nearly all successful coaches will agree with me.

Scouting can't be stopped or limited by law

UNIVERSITY OF MICHIGAN

and I certainly hope there will never be any bungling attempt to do it. But it is possible to make a distinction between fair observation of another team's play on the field, and such questionable expedients as smuggling a spy into a closed practice, or setting a mathematical sharp with a pad and pencil to note signals until they can be decoded.

I don't want my teams to win games by knowing the other side's signals. I am absolutely in earnest when I say that I'd far rather have them lose than win like cheats. Football is too fine and clean and manly to be smirched by the cheap tricks of less admirable games. One reason it has such a hold on the public is its essential atmosphere of straightforwardness and downrightness, its contempt for chicanery and fraud. I will stop teaching it when I have to teach crookedness in order to win.

Scouting or no scouting, the one best defense on the field is a team schooled in thinking quickly, drilled in fundamental principles and well trained in the execution of actual defensive manœuvers. And perhaps after all, there is something to be said for the old doctrine that the best defense of all is a winning attack.

VII

THE KICKING GAME

THE gradual evolution of modern football has steadily been away from the kicking feature which originally was the characteristic and basic play of the game. The kick survives partly indeed as an arbitrary matter of rule-makers' tradition, so that the game begins with a kick and a score is still completed and enlarged by the goal-kick which was once the only means of scoring. But except for these fixed and institutional kicks, the play has gradually diminished in favor and importance except as an incident in the really beautiful variety of attacking measures and a means of emergency defense.

As a defensive play the punt remains a device of first importance. Even when it is used mainly as a threat, like the forward pass, it has indisputable value, provided always that the team so using it possesses a punter known to the opposition to be formidable at all times. A team without a reliable and reasonably long, high punter

is always at a strong disadvantage and may easily lose its games for want of one. The punt, in brief, is one effective means whereby a team may exchange the advantage of possession for a lessened disadvantage of position with relative certainty that this will be the result. Every game is almost certain to produce situations in which this exchange becomes advisable or necessary. A punter belongs among the list of essentials in winning football.

But as a purely or chiefly attacking play the value of the kick is open to debate and depends, certainly, on conditions. It presupposes first of all a superiority in this department of the game—a man who can appreciably outpunt any member of the opposing team. It demands, too, a forward line capable of getting down under the kick and preventing this difference in distance from being offset by a run-back. It also ought to be reserved for a position from which it can be made with reasonable safety against going out of bounds for little or no gain, and where it will be helped or at least not hindered by the wind. Again, it serves only when there is distance enough between the probable limit of the kicker's range and the opposing goal-line to make

a touchback unlikely, for one feature of an offensive kick must necessarily be its chance of being fumbled and recovered by the kicking side. This potential advantage is, of course, forfeited by punts which go out of bounds or cross the goal-line without being touched by the defending players.

Given all or most of these favoring conditions a punting attack may be a very formidable affair indeed, but it never can serve as, in any sense, a substitute for the running game, to which, at its very best, it only serves as an introduction. The trouble with even considering it as an attack is that it has an insidious effect on some coaches, who can hypnotize themselves into believing that an exceptional punter means a scoring asset, and will teach their teams to rely on his foot instead of on running or passing combinations which alone can score points.

Of course they are the exceptions, but I can recall six or seven so-called championship games in which the losing team lost almost wholly because it relied on an attack built too much about a kicker who either failed to outkick his opponent or whose success in getting his team into a striking position was not of any advantage because

UNIVERSITY OF MICHIGAN

their attack had not been sufficiently developed from that point on.

The big trouble with the kicking game, so-called, and meaning the kick as a central attacking measure, is that it contains the insidious element of a gambler's chance. Handling punts is always a difficult job for the catcher, and I know from experience how easy it is to persuade oneself that sometime during a game the opposing team will muff a catch and give us a chance to score. That, I believe, is the real charm of the kicking attack for those who believe in it. But it is almost axiomatic that hoping to win football games through other people's mistakes is about the poorest system of planning a campaign that could be devised, and that it results, with a sort of poetic justice, in making the mistakes oneself.

A field-general has to consider a good many things before he can ever decide that a punt is good policy. It is not enough to have the best punter, the best covering ends and forwards, the safe position and the help of the wind, if possession of the ball is more important than position on the field. That is surely self-apparent, but it is no less true and very generally overlooked,

that the quality of the opposing attack has a direct bearing on every decision between a punt and an alternative play. It certainly is poor policy, for example, to punt against a team which has shown a brilliant and effective running attack, except when the punt is a last-resort defensive measure, for it gives that attack possession of the ball without which it is powerless to accomplish anything whatever. I have laughed and sometimes I have wanted to cry as I watched this oversight cost teams touchdowns and games which might have been saved had the quarter-back been made to see the force of this simple distinction.

Before a team absolutely has to punt it always has three plays to gain ten yards, even when it is very deep in its own territory, and the state of the time and score exert a further effect on the advisability or reverse of surrendering the ball at once for the sake of improving position. At the opening of a game, of course, it is often sound policy to get the ball out of danger at once, always remembering that when the other team is morally sure that a punt is forthcoming the punt is about the poorest play that a quarter may choose. But when time is almost up, say, and

points are desperately needed by the kicking side to tie or win, obviously the punt is poor business regardless of position. Or, on the other side, when a team is slightly in the lead and time is nearly up, the possession of the ball is far and away the paramount consideration and hardly any advantage in position will justify its loss. Again, a tied score, with time nearly gone and a brilliant attack to be met, suggests at least the conservative wisdom of avoiding defeat rather than taking the very long-shot chance of a fumbled catch and a score.

I have seen a good many won games turned into defeats by nothing in the world but injudicious punts in the last few moments of play, and I have watched many lost games saved by taking desperate chances of a wider margin of defeat for the sake of a faint hope of turning the tables. The punt is a conservative measure which is often enough the most radical sort of policy, and I believe in teaching the quarter-back to understand its various possibilities in fine detail.

Of course a high wind always increases the effectiveness of a punt, and I believe in using that advantage when one has it, and with that circum-

stance favoring the other side it is certainly extra poor policy to kick except when absolutely necessary.

Great individual punters also justify the use of a kicking attack to an extent otherwise ill-advised. The history of the game is full of them, from Billy Bull and Alec Moffett down through Andy O'Dea and Hershberger and George Brooke to Felton and Shiverick. Where a team is blessed with a miracle-man of this type it is certainly badly coached if it does not use him to the limit. The trouble with the game is that it really needs an exceptional punter to make it a strong attacking measure and too many coaches are apt to lose sight of the fact and try it with a mediocre man at the position.

The once-common onside kick has almost disappeared in favor of the far preferable forward pass. It used to be an effective trick-play in the days when there was nothing like the pass, but under present conditions with the defensive backfield well back to protect against the pass, the kick has such a reduced chance of being recovered that I see little place for the play in a modern repertory, although it is still occasionally used as a shoe-string.

The real attacking feature of the kicking game is the field-goal, and curiously enough this is hardly ever in the mind of the man who speaks of a kicking attack. Like the punt this play will probably stay with us as long as the game endures, for its sheer spectacular effect, although its scoring value has been steadily reduced by the rules until now it takes three field-goals to outweigh a single touchdown and the goal resulting from it, which is probably about the proper proportion.

Three points, however, to be gained from anywhere between the ten-yard line and the middle of the field, are very far indeed from being inconsiderable, and a drop-kicking attack is at its worst a pretty effective measure with even a weak running team. It is a mighty poor eleven which does not find itself on several occasions during a game within the extreme drop-kick range of a field-goal, and there is a peculiarly disheartening effect on the opponents whenever the ball sails over their heads to a score which no amount of perfect play on their part can possibly prevent. The feeling of helplessness is about the hardest thing to overcome, once a team acquires it, and Brickley's elevens at Harvard

were nearly always able to make better running gains after one of his wonderfully accurate kicks had scored from fairly deep territory.

The use of the drop-kick involves always an element of field-generalship in which too many coaches are apt to omit a sound training, relying on their ability to send out a substitute in case it becomes necessary to call for the play. As I have said before, I prefer my quarter-back to run his own team and not to wait for orders from me. Of course it sometimes happens that the best drop-kicker on a squad is not on the field when his services are needed so that sending him out rests rather with the coach than with the quarter and his very appearance on the field is a sure indication of the coach's preference for the next play. But it is always bad policy to train a man who must nearly always use his head to wait for orders on some special occasion. It weakens his sense of control and confidence and I want my quarter-backs able to know just as well as I do when a drop-kick is in order and when it is not.

Roughly speaking, this play is a sort of compromise between the touchdown which seems out of reach and the loss of the ball which is becom-

ing probable. Its advisability depends heavily on the state of the time and score, the certainty of the kicker himself and the position from which he must kick, both as regards side and goal lines. Thus, as a general principle, the play is essentially a third or fourth-down affair, and nearly always the latter. As I have said earlier, there are occasions when it is well worth while to take the defense entirely into one's confidence, and this is usually one of them. Especially so, now that we have evolved a protective formation which makes it practically impossible to block a drop-kick with even reasonably good play ahead of it. The kick differs radically from the punt in that it is not necessary to get the line through and down after it, although of course the ends ought to be there as usual. Under these conditions it does not seem to me worth while to attempt the kick until the possibility of gaining a first down seems practically gone.

Again, when there is no strong advantage to be gained from scoring the three points which a successful attempt will yield, it is clearly better policy to risk the loss of the ball and try for distance and possession. If a team needs seven points to win and has not time enough to hope

for another drive into scoring position after a kick-off, it surely does not profit by attempting a field-goal whatever the down and distance. And yet, this is not absolute, for a team which is seven or more points behind can always use three points if there remains time enough for a fair chance of another score.

A frequently neglected feature of the kicking game is the initial manœuver which puts the ball in play and which, regardless of its use or disuse of other forms of kicking, every team is obliged to do once or more in every game. I have seen a poor kick-off lead straight to defeat so many times that I am risking an obvious bit of advice here. A good kick-off is no more a matter of luck or natural ability than anything else in football and the team which does not train a man to perform this function acceptably is deliberately handicapping itself and may easily pay for its neglect with its championship games.

It is not a difficult matter to develop several men able to get off a high, long kick from the tee with practically uniform certainty, and to teach the whole eleven to get down fast under it. There is no secret whatever about either matter. The team which is well drilled in receiving and

running back these opening kicks is pretty sure to be the one which is best equipped to handle them in the opposite direction as well. The rule holds good here as elsewhere that the team which is best trained in the attack is best, also, in the defense.

When all is said and done, however, the kick is nearly always a defensive move and should be so regarded. The idea that the new rules make possession of the ball less important than did the old ones, is based on the failure of some teams to realize the full attacking possibilities of the new game. Rightly played, modern football puts the side in possession of the ball always in a scoring position, wherever it may stand on the field. Of course it is obvious that some positions are more favorable for attack than others, that a team may be on its third-line defense and still hold the ball, or may be knocking at the door of a score and still not hold it, but in the main, with the far increased possibilities of long gains which the new game holds out, it is never safe to assume that the team with the ball is purely on the defensive, nor to sacrifice the possibilities of attack too readily in exchange for an improvement in a defensive position. That is why I take a

great deal of pains in discussing the kicking side of the game with my quarter-backs. The man who knows when to kick and when not to is pretty sure to be a fairly competent judge of field situations in other respects. And to him, except under very special conditions, the kick will be a last resort and nearly always a means of emergency defense, whereas its formation will furnish a first-class variation from which strong running or passing plays may well be launched and its ever-present threat will serve to keep his opposing defense uneasy and spread. That, after all, is the best attack-value of the kick.

VIII

THE SCHEDULE

EVERY well planned schedule should begin with at least three games the issue of which is not in doubt and the purpose of which is purely practise—to give the coach a line on the ability of his men under playing conditions and to test out against an unschooled defense the value of doubtful plays and formations.

It is nearly always the case that a team of any sort at all is being developed for one or two final games which spell success or failure for its season. This applies just as much to a school eleven as to those of the strongest football colleges and to all intermediate teams as well. The most peculiar phenomenon in present day football lies in the willingness and even eagerness of weak elevens to schedule their opening games against far stronger ones. There are circumstances which make this more or less advisable, to be sure. For instance, the mere matter of finances may make it imperative to play early

season games with teams which are sure to win, but which will provide a better financial return than easier games with lesser rivals, and of course football, like everything else, needs some money if it is to be run even ordinarily well.

It is better, indeed, to have no team at all than to send men on the field dangerously under-equipped, and I, for one, would unhesitatingly choose the former alternative. I have no use for football as a money-making spectacle, and it might be better if we could finance it without anything but undergraduate support, but this under present conditions is far out of the possibilities, and every coach and manager has to consider not only the necessity of equipping and training their football players properly, but of making the spectacular value of this game serve to help finance other sports in other seasons which cannot begin to pay for themselves. Even at the biggest and most prosperous colleges there are only two or three sports which can meet their own necessary expenses, and the only way in which the valuable minor ones can be maintained at all is either by assessment on the undergraduate body or by a surplus from the treasuries of the profitable games.

It would be a pity indeed to sacrifice the splendid sport of rowing merely because it cannot be managed behind closed gates and viewed by only those who pay for the privilege. The man who pays for a football ticket in the fall is always paying for half a dozen other sports which he may not care to see but which are just as important to the all-round development of the student body as football itself.

Newspaper reports of tremendous receipts from championship football games sometimes give well-meaning people the idea that the game is run for somebody's profit, and perhaps, in some cases, these receipts are not altogether wisely used, but in the great preponderance of instances every penny is managed as carefully as it would be in any big business and applied scientifically to the general athletic needs of the university or college. Nearly always athletic finances are in charge of graduate managers and faculty committees and the surplus resulting from one sport is devoted to the needs of another.

This is especially true at present, when nearly every college treasury is suffering from depleted revenues because of the hiatus of the war and equally from the increased expenditures due to

the diminished purchasing power of the dollar. This bears down with peculiar weight on the athletic budget, which has had little or no income during the war and for which university finances make practically no allowance from their regular funds. More, the rise in prices hurts athletics just as much as anything else. We have to pay nearly three times as much for a pair of football shoes as we paid four years ago, and the same proportion of advance holds good in every other direction. But we cannot ask for help from endowments and it is almost impossible to get it from private generosity. We simply have to earn it by the drawing power of our profitable sports and bear whatever burden of criticism this involves.

I am very far from holding any brief for this state of things. It might easily be better to endow athletics and regard them as they properly should be regarded as an intrinsic part of the university's educational plant, but this has never been done and I strongly doubt whether it ever can be done, and in the meantime if we are to have athletics at all, their cost must be met somehow. Meeting it out of football and baseball receipts is not altogether a bad way of doing it.

It is only fair that the people who insist on seeing college football should pay for the privilege and that their money is used to finance sports which they do not care to watch but which do almost or quite as much for the men who play them, ought to be a source of pleasure to them rather than a ground for complaint.

Not that the football spectator complains at paying for his seat. I never hear of such an instance, but I do hear, sometimes, well-meaning remarks from people who do not go to the games and know nothing or less about the circumstances. The college football game is not run for profit. It is a spectacle incidentally and not primarily, and the student bodies whose rivalry makes it possible are in the position of welcoming for the day a body composed mainly of graduates and their connections, each of whom makes without protest a contribution to the general athletic fund of both colleges, which is gratefully received and wisely used. Moreover, there is never enough in the athletic treasury to finance as many sports as would be desirable and if we could double our funds we should still be able to find a useful and helpful application for every penny of them,—an application which would

exert a direct influence in building up more men with healthy bodies and clean ideals of sport than we can do at present.

A practise game against an eleven which is measurably superior is not altogether bad policy, either, for a coach whose college cannot adequately finance its team except by such means. Properly approached, these sure defeats are just about as effective in developing an eleven as they are for the other side. This means that the team must go into them with the right mental attitude—not be driven and keyed for superhuman and unseasonable efforts to do the impossible, but actuated by a sportsmanlike desire to play as well as they can and take a licking, if it comes to them, as part of the day's work. I think that the practise game is a fairly even proposition for both sides, always provided that the disparity is not too great. It does not do any team much good to be trampled on, and the phenomenon to which I referred above concerns the ambition of hopelessly weak teams to serve as cannon-fodder for very powerful ones. This, I think, is bad policy for both sides. It does the stronger eleven only harm to run wild against a tissue-paper opposition and it certainly hurts the opposi-

tion to go through one such experience after another.

I know that some teams are scheduled with a view, primarily, to accumulating huge totals in the annual guides, and whose football authorities carefully avoid games in which there is no strong probability of running up a lop-sided score. The coach who applies this sort of a yard-stick to his work and worth is usually in for a dismal fall when circumstances put his team against a real opposition. Nothing is worse for the team and the coach himself than to get the false impression of strength which these one-sided practise games involve. So strongly am I convinced that the effect of a negligible opposition is bad for my players that when we find a practise game unexpectedly one-sided I put in an eleven which will make it more of a contest, rather than let the best players get used to running wild and imagining that it is their ability rather than their opponents' weakness which accounts for the performance.

Here is a very important feature of coaching this game. It is hard not to fall into the error of feeling pleased over big early-season scores, and just as it is hard for the coach, so is it hard

for the player. The team I fear is rather the one which has just been beaten than the one which has run loose through a weak opposition, and when I send an eleven of my own into a hard game after one of these romps, I am generally nervous and prepared for trouble. On the other hand, when a team of mine has run into an unexpected defeat in a practise game, I have an added confidence in it when it faces its next opponent.

Yale men are prouder of their teams of 1897 and 1910 than of the more impressive elevens of other years simply because each of those two teams after being knocked about in mid-season by smaller college elevens, learned enough in those misfortunes to tie a strong Harvard team and beat a strong Princeton aggregation on the two last Saturdays of the season. In the same way Princeton memories will be apt to recall the 1919 team rather than that of 1896 or 1903, simply because it came back after mid-season catastrophes and finished stronger than it began.

Another feature of the practise games, so-called, is the fact that the modern system tends to lessen the handicap under which the smaller college used to play. In the old days there were

only half a dozen teams in any section of the country which had any claim whatever to championship honors and these uniformly outclassed their opposition. The small student body, in the very nature of things, did not offer a coach a choice among as many heavy and big men as did the larger university, and one could almost predict the result of a game by looking up the number of students in each of the two contending colleges. The new rules make it possible, and even probable, that a college of three or four hundred will turn out a team able to beat that of a university with twenty thousand undergraduates, and indeed this is exactly what happened on three occasions in the fall of 1919. This circumstance leads up to an altered aspect of the practise game idea. The football public finds it hard, sometimes, to realize that a practise game no longer means one mentioned in a tone of casual disrespect, but one which, won or lost, is only a step in the development of the eleven. We are so used to expecting a big team to win every preliminary game that we are inclined to attach a totally erroneous importance to the upsets which the modern rules make possible in every season.

I can best illustrate the real purpose of the

preliminary game, and its real practise service by reminding the reader that most big college baseball teams schedule a game or two at the very start of the season against far stronger professional teams, the issue of which games is almost never in doubt. No one thinks of regarding them as anything but practise games and no college team is criticized for losing them. In the same way, every football team, developing slowly as such teams must in the very nature of things, reaches its form only toward the climax of its season, and it is no more to the point to remark on its failure to win its early games than it would be to call attention to the fact that the winner of the world's series in baseball had been soundly trounced by a semi-professional sand-lot team on its spring training trip.

This works both ways. The smaller and weaker elevens whose defeat in the early games is a foregone conclusion never regard the season as a failure on that account, and should not, because they had no more reached their actual playing level than had the teams which beat them, and the event of their final game against their particular rivals is always the index of their merit.

For a particularly strong illustration of this point let me instance the Swarthmore eleven of 1916, which began its season by well-earned victories over Lafayette and the University of Pennsylvania, two teams which should ordinarily have been well out of its class, and the conquest of which would seem, to an outsider, to have furnished glory enough for the year. But that team as it happened used itself up in those two games and finished its season by losing to Haverford, and the year, to all Swarthmore men, stands as a losing one. Justly so, I think, for there is not much more to an early-season winner at football than to a runner who leads for the first lap of a two-lap race and explodes in the stretch.

There is a recurrent proposal for the formation of football leagues in different sections of the country and experiments in that direction have been tried. But anything like a real football league in which all or most of the teams in any one class will meet each other every year is on its face an impossibility, due simply to the fact that the calendar will not allow it. If we could play football three or four times a week, or keep on playing it till spring, there would be some practical foundation for the league plan, but as

long as the college calendars and the state of the climate remain as they are, the idea is simply out of the question. We could easily enough schedule all of our seven or eight games with rivals more or less equal, year in and year out, but we could never arrive at any more definite idea of a championship than we do now. The football team does not exist until its season is five or six weeks along. Until that time the coach may have two hundred players, but he has no team. The baseball leagues begin their playing season at a period almost exactly corresponding to the stage at which college football elevens are disbanding. Their spring training trips occupy about the same length of time as the entire college football season, and they arrive at the opening of the league season in pretty much the same state of training and team-play which the football teams display in early November. It would certainly be silly on its face to attempt anything like a championship baseball league during those spring training periods, and it is about as futile to talk of a league for football in which every game would be a championship contest between teams of approximately the same class.

Here is the true condition underlying what is

sometimes attacked as football snobbery. Certain small groups of two or three colleges in a section have been charged with a sort of athletic exclusiveness because they do not welcome to their schedule every team which geographically or in relation to its football quality might possibly have a claim to a contest. Perhaps, in some cases, there is an element of snobbishness involved in the attitude of one or more members of such a group, and perhaps, too, a certain sage discretion may influence the exclusion of a formidable rival, but so far as my definite and personal knowledge goes, the grouping of football rivalries has nothing whatever to do with either consideration. With the college term beginning in late September and the playing season ended by cold weather before the end of November, it becomes a simple physical impossibility for a team to be developed into reasonably final shape before the last two or three games it plays, and those which come earlier than that are necessarily practise games whether or not they involve the certainty of defeat or victory or an equal probability of a still, even fight.

To take a concrete example, I should like nothing better than a season which would be long

enough for me to develop a team and then play, besides Yale and Harvard, championship games against every other good team in our geographical territory and even against strong teams from other sections. I should feel that the hard and tiring work of bringing a team together and perfecting its play would be better justified if we could use it against first-class opposition more than twice, and I am sure that most coaches would feel pretty much the same way about it. But we have a condition and not a theory to face, and facing it we find that there are always one or two colleges toward which any other college has a particular and natural sense of an equality of rivalry, and these teams are almost inevitably its choice for a final test of football mettle.

It is impossible to lessen or divert these curious natural antagonisms which link colleges and schools into pairs far more tightly than they can be united by mere friendships. There is no snobbery whatever about them, whether they concern powerful and great universities or small, obscure colleges or preparatory schools. It is not snobbery nor exclusiveness which makes Swarthmore and Haverford so closely identified as rivals that

one inevitably thinks of them as coupled, nor is it anything except an ineradicable bond of friendly enmity which links Lafayette and Lehigh into a sort of twinship. Lawrenceville and Hill School, Andover and Exeter, Williams and Amherst, Vanderbilt and Sewanee, Missouri and Kansas, Chicago and Minnesota, Cornell and Pennsylvania, and so on with every college in the list and nearly every school, furnish striking proof that it is not exclusiveness but something far different which guides a student body in its choice of its dearest enemy.

There are amusing converse confirmations. In Lexington, the campus of Washington and Lee is bounded on one side by that of the Virginia Military Institute, and by and large they each produce a football team able to play the other a very close game, but they are not natural rivals in this queer sense of which I am speaking. They actually cannot play even a practise game without the probability of its becoming too bitter to be good fun, and after proving this by experiment they have very wisely agreed not to play. These natural bonds of private rivalry are, properly considered, the finest thing imaginable. They are never founded on enmity in the sense

of hate; institutions between which there is anything like bitterness, scorn or mistrust are incapable of forming one of these attachments, and only those which respect and really admire each other can preserve the rivalry unchanged through the years.

Forming leagues will never alter this. There will always be a series of leagues within such confederations, and the final game will inevitably have to be that one which each participant most desires to win. Where such experiments have been actually put into practise, this result is manifest. The leagues themselves quickly become no more than a means of standardizing eligibility rules—a good thing in itself and worth the effort of forming the organizations.

Quite aside from the instinctive undergraduate tendency to these close-combinations of friendly enmity, the season's length and the nature of the game make it a practical impossibility for any coach to create an eleven which can stampede triumphantly through five or six championship games unless he has a team individually composed of phenomenal players, and even then he is extraordinarily likely to lose the game he most wants to win.

I have touched rather extensively on this phase of schedule-making because there is never a season without well-meant attempts to force one game or another on a team which has no real natural rivalry to justify that game, or on one which lacks the feeling of friendly hostility which is necessary for a real championship contest. It is to be regretted that many close followers of the game should not fully understand the truth that a team can only play one or two games outside of those contests which, won or lost, remain preparatory and preliminary exercises rather than contests.

A practise game is a practise game for both teams playing it, however lop-sided the score, and it is impossible to take games between important colleges, say, as merely that type of struggle. The public will not allow it. A game, let us say, between Princeton and Rutgers would be regarded by everybody except the two teams and the undergraduate and graduate bodies behind them as a sort of New Jersey championship and therefore an important and final game in itself. The pressure of outside opinion would disturb both elevens and rob such a game of its training value for one as for the other, and yet

there is not the instinctive rivalry between the two institutions which is the essential basis of all championship games. Neither Princeton nor Rutgers would consider the winning or losing of that game a test of a season's play, and yet it would have to be played more or less as if that would be the result.

I want practise games which are not at first too hard for my team, and which gradually increase in difficulty as the team learns more football and is knitted more and more closely into a team and out of an eleven. I train my teams to do their best to win and to play well while they are winning—that is, not to relax when the opposition is weak. If they show signs of this during an early game the remedy is to send in substitutes who will be keen and who will also have a chance at the instruction-value of a real intercollegiate game. But I carefully see to it that the primary purpose of these games is never lost sight of by any player if I can help it, and that when, as sometimes will happen, a practise game goes against us, its effect is not to discourage or depress the team, but rather to demonstrate in practical ways the defects and weaknesses which it is now the team's business to correct.

Rightly regarded these occasional reversals are more useful than the more general successes, and probably the best imaginable practise game is one which tests a team to the limit of its football knowledge and ability without putting an excessive strain on its physical condition.

An important feature of practise games lies in the use of substitutes. Besides the wisdom of keeping competition for places on the first eleven as keen as possible, there is an equally urgent need to school as many men as one can in the emergencies of actual play. Eleven men do not make a first-class football team, nor for that matter a second or twelfth-class team. The game in its very nature requires frequent substitutions, and no coach can count with any certainty on anything except finishing a game with a radically different line-up from that which began it. Even though men come through four quarters of stiff play without injury or visible weariness, it is nearly always good policy to relieve a player who has been doing more than his share, and most injuries, indeed, result from keeping tired players too long on the field. More, a fresh man, properly trained from the beginning of the season, is often far better than a more brilliant player

whose strength has been sorely taxed. The trouble with substitutes in championship play lies in the very use of that word. There is such a tremendous mental difference between being a regular and substitute that I try all I can to avoid the distinction and to consider that I have twenty or thirty first-team men and that I may use any combination of them I choose without having to demote or promote anybody, always remembering that the team-spirit must not be weakened by this policy, that there is always a distinction between the men who start the game and those who sit on the side-lines, and that competition to get into the former category can be kept just as keen as it is between scrub and Varsity when those names are more definite affairs.

With an ideal schedule, to my way of thinking, the first three games serve primarily to test out material, to help in the selection, that is, of a working combination. The fourth becomes, then, a sort of test of the wisdom with which this choice has been made and the degree to which the men so chosen have been amalgamated into a team. I like to have this fourth game confront my team with the hardest test it will face except for its championships themselves, and the possi-

bility that it may be beaten as the result of this policy does not worry me. Of course, I know that such a defeat is almost universally interpreted as a blot on my season's escutcheon and, of course, I prefer to win every game if I can. But I refuse to let myself be stampeded into hurrying the development of a team merely to win a practise game which promises to be harder than was anticipated. Sometimes the pressure of such a game will induce a coach to send into it men who are not fit to play at all, and many a coach has ruined a season for himself by taking the winning of a mid-season game too seriously. There is no way in which a team can be brought to practically perfect form and kept there for three or four weeks, and the coach who tries it will hurt himself and his team almost infallibly. Season after season the records prove this truth beyond any possibility of dispute.

A practise game—any game, that is, which does not involve the college which is the perennial and fixed rival, and from whom the team is developed to win—must always be subordinated to the purpose of the team's development and its winning or loss regarded philosophically as an incident in that process.

The fourth game ought to leave a team fairly fixed as to personnel and a policy already beginning to take final form. A coach, by this time, ought to know the capacity of his material and the quality of his plays. The time for experimenting is over and every minute from now on is a finishing and polishing proposition. Three or four games will remain on most schedules, and two of these probably will be what I call championship contests. They may not fall on the two last Saturdays of the season and if they do not the problem is both simplified and complicated. I like to wind up with my two main games on successive Saturdays, merely because it is a difficult job to keep the team at top form for longer than a week, although in case the first game has resulted in minor injuries there is an advantage in being able to use the extra time for recuperation. But I prefer to take my chances on the physical side for the sake of having the mental strain reduced.

After the fourth or test game, practise must be mapped out in advance even more carefully than before it, and not a minute wasted on material which does not offer strong promise or on plays which have not proved their worth.

Of course, the drill in the essential rudiments never stops, but the whole process from this point on is rather to perfect what has been done than to start anything new. The one or two remaining practise games serve as checks on the degree to which this perfecting process is being accomplished and to exhibit whatever defects remain to be corrected.

The one new departure as the team swings into its championship season proper lies in the changed attitude which I think the coach ought to adopt about here as regards his relations with the men themselves. Up to this point, except so far as the captain and quarter-back candidates are concerned, he has been inspecting rather than coöperating. He has been, if you like, a drill-master and an authority, rather than a fellow-enthusiast. This may sound like heresy to the people who think that a coach has to shout enthusiasm into his squad from the first day of the season to the last, but anybody who has tried it knows how soon the most effective oratory wears thin and becomes a deadly bore to the listener instead of a stimulus. If a coach has waited until he has taught football in its elements and led his men to think of him as a rather cool and

unemotional person, he is in a strong position, as he nears his final games, to spring the necessary moral influence without risk of wearing out his voice and exhausting his vocabulary too soon.

Sentiment, in the Anglo-Saxon, is a ticklish affair to meddle with. The least excess is almost sure to be fatal. Overdoing the emotional side of the process is worse than not doing it at all. A team is made up of boys who do not like to hear sentiments put into language, and who have, as Kipling says, a reserve far more sensitive than that of a girl. Ranting and roaring at them, the use of high-flown language, mawkish talk of dying for dear old Siwash, is all merely to invite an attitude of almost hostile boredom and a sullen sense of outraged feelings.

I have heard men who had been fed on this kind of harangue from early season, groan as they counted the days remaining before their release, and I have also seen teams which came down to their final game with a keen regret that the season was so short. It rests very largely with a coach to choose which of these attitudes his men will have, and there is no surer way of wearying them than to scream patriotics at them while they are trying to nurse a muscle-bruise

and learn how to box a tackle at the same time.

This is not to say that a coach has not to teach something besides the science of the game. He has to help his men acquire not merely a fighting football spirit, but also that sense of unification, of *esprit-de-corps,* which is loosely called team-play. This really has to be done. Team-play is never mechanical, but always four parts emotional, and statistics and blackboards don't produce it. My point is that nothing will kill it quite so dead as overdoing it as it is all too commonly overdone.

I think that the way to make a team fight is never to stand back and bellow mock heroics at them. American schoolboys, and still more so, American college men, are not very different from the English boys of whom Kipling wrote in his story of the spellbinder who came down to Westward Ho to present its cadet-corps with a flag and managed to make every boy present ashamed of ever having had a patriotic thought. The surest way to smudge a "shining secret ambition" in a boy's soul—or man's either—is to talk about it. And the quickest way of taking a team's innermost heart out of it and compelling

it to feel sheepish and uncomfortable over its individual dreams of gridiron triumphs is to bawl cheap sentiment. Instead, the really capable coach becomes, in these tense days, a comrade in arms, talking in quiet, sober fashion of his own hopes and desires, and, when he addresses the team in a body, suggesting rather than pleading for the spirit he must somehow stir. The statement, in a blunt, plain phrase or two, that this is after all a fighting game and that the fighting team wins at it carries about as much effect as an hour of eloquence.

For instance, what really makes a man play a little above his ability rather than a little below it is not selfish ambition, or we should have nothing but grandstanders on our teams, each trying to write his own name in blacker type on the records. What really draws the final ounce of a man's strength and speed and courage is devotion to something bigger and finer than himself. The winning football team is really fighting for its college, just exactly as the spellbinder would say, but the worst possible policy is to put that statement into so many words. Rather, it is better to issue an abrupt and peremptory order without inducements, and send the men out tin-

gling with the voice of authority as their stimulus.

But still better is it to suggest the unselfish ambition by appealing to the selfish one, to say to a team, in effect: "You are going out there to be licked unless you simply refuse to stand for it. You're going to decide for yourself whether you'd rather be a winner than a loser. You know as much football as the man against you, and you're just as big and strong as he is. If he licks you it's because he's gamer than you are and no amount of talk will ever make it anything else than just that. If you go out there and fight him harder than he can fight you, you'll win. That's all there is to it."

This conveys all the sentiment that any silver-throated orator can crowd into an hour's harangue and it does it without violating anybody's instinctive detestation of high-flying heroics.

This sort of thing can be safely done during the last week or two of the practise season, and emphasized on the field during practise when there is less need for mechanical correction and the coach can devote his time and his influence to getting fight into his players.

Three days before the first championship game

the work of preparing a team is over. The coach who hopes to teach more football after that is only defeating his purpose. The main thing for the men during the interval is to rest and relax and avoid anything which will heighten the tension that is more or less inevitable at the best of it.

When the game is to be played at home, I want my men to go to classes, to sleep in their own rooms, to eat a little less than they want and to keep away from excitements of all sorts. The idea of taking a team away from home for this period is sheer folly except when the game is to be played elsewhere, and the old practice of herding them together for the last night or two in the field-house or some other common sleeping quarters is admirably designed to interfere with their rest and to get their nerves on edge. The more they can be persuaded to regard the game as an incident to be considered when it is faced, the better their mental and physical condition will be.

The same holds true when a trip intervenes of necessity. A quiet hotel, none of the miserable false economy of crowding into a few rooms, a careful supervision of diet and sleep and a rigid

avoidance of the well-meant but fatal attentions of hospitable people are all prime necessities. I make my men understand before we leave home that the trip is not a junket but a business matter with one and only one objective, and that there is no place for amusement outside of those I provide, which means none whatever except perhaps an early visit to a picture show or not even that.

I like to have a chance to get one warming-up drill on the foreign grounds before the game, merely to accustom the men a little to their surroundings and to familiarize the quarter and punter with the air-currents, the background and the lay of the land.

All this, perhaps, sounds rather minute and detailed, but this is the one time in the season when minutiæ are paramount and the little things which it is so easy to despise are the very factors which decide the issue.

The job of developing a football team is done when it finishes its last practise, but the coach's part in winning or losing football is very far from ended.

IX

THE DAY OF THE BIG GAME

I BELIEVE a good many games are lost in or near the dressing-rooms before the play begins, and it profits a coach very little to gain all the season and lose his championship merely for want of a little forethought about what seems a wholly unimportant detail.

For instance, very naturally, as the game draws near, everybody who knows any member of the team or coaching staff becomes possessed of an overpowering desire to interview him. I suppose it is inevitable that friends who have come a long way to see the game or who merely want to prove to themselves and their companions that they really do know somebody on the inside, should forget that by intruding at this time they are doing their level best to beat their team, but whatever the reason it is decidedly a part of winning football to see that the men are absolutely protected against this thoughtless distraction.

I have seen dressing-rooms so crowded with outsiders that the men actually were cramped for space, and some of these interested spectators insisted on smoking, while others bewailed the fact that their connection with the assistant rubber's third cousin had not enabled them to get a seat on the fifty-yard line and demanded that this injustice be rectified at once. One gets a beautiful slant on the human sense of self-importance on occasions like this. It is really more difficult than it sounds to safeguard a team of boys already under a high nervous tension from the petty annoyances of their friends and of overzealous partisans who make up for their lack of acquaintance by a vociferous patriotism which takes the edge off every man's determination as nothing else can do.

It is really an essential thing to get a man on guard at the door of the quarters who is not only without human sympathies but has the authority necessary to hold his ground against old players and former captains, even, who seem to forget how they hated these visitations in their own day, and are bent on imparting some of their vintage ideas to the coach and team at the last moment.

Besides being absolutely sheltered from distractions, the team should have a brisk warming up on the field, and then gather for a final talk with the coach, in which the old line of hysterical adjurations have no place whatever. The fighting spirit grows best in a quiet atmosphere of earnestness, and will profit from being permitted to suggest itself as I have already tried to point out. This last conference cannot conclude any new football teaching, although I remember cases in which it was used for exactly that purpose. With me this last talk is as carefully considered beforehand as if I were making a set address. An extemporized burst of rhetoric won't do. Generally speaking, it is a stimulus rather than an admonition that I aim for, and every man will have his own way of handling the problem, anyway. I know that some coaches proceed on the assumption that noise has its value and perhaps it has. I know that others make a practise of calling in old-time heroes or professional graduates given to spread-eagle eloquence to use these final minutes. I am not arguing against them. I merely describe my own idea of the way to give a team the winning feel.

Unconsciously every player takes his cue from

the coach in these trying minutes. It is not enough for the coach to have his own nerves under control and to show a kind of cool calmness which is the best index of confidence, but he must also know, and show that he knows, exactly what is to be done by everybody at every minute. It is very easy to let some minor annoyance disturb one's equanimity, and the ease with which this can happen to the coach is an excellent proof of the harder tension on the men. Somebody is perfectly certain to have scamped his duty somewhere and there is always a mass of trivial things left undone or done wrong by rubbers and other assistants. I remember seeing one coach who had held himself beautifully in check until a few moments before the opening whistle suddenly explode in a frothing rage because one of the footballs was insufficiently inflated. And at game after game I have watched something of this sort happen, until for myself I am on very vigilant guard against any provocation.

A team which sees its leader fly off the handle over a missing blanket or a broken shoe-lace cannot be blamed for showing a certain uneasiness itself.

The best way of avoiding these seemingly

trivial dangers is to know in advance what one is going to say and do during every minute. I map out the time well ahead and stick to my schedule like a limited train. This applies especially to the game itself, when, although I am not in direct charge of play on the field, I am still vitally involved. I know and write down exactly how I am going to make substitutions and I think this over about as carefully as if it were our most important play. It isn't very long since I watched a championship thrown away by a mere confusion in a single substitution, and I am not likely to forget it for a long time to come. I also believe it is good policy to let each prospective substitute know in advance which man he will replace so that he may keep a closer watch on that particular player and his opponent, and go in, when he does go, better equipped than the first choice could be, by knowing how the opponent behaves on the field.

In line with this same plan, I carefully prearrange the seating order of the substitutes, so that those who play one position will be grouped together and under instructions to watch their particular predecessors rather than the general play. I always keep the substitute quarter-

backs beside me and discuss with them as the play proceeds the merit or defect of strategy and tactics as exhibited by the first-string man.

This attention to petty detail may sound sordid, as if winning football had nothing in it except a passion for the long end of the score. I have no patience, to be sure, with the view that it is in some fashion unsportsmanlike to regard winning as a trivial detail and playing as the paramount consideration. Somehow that always sounds to me like a rather feeble alibi for defeat, and I can't help noticing that the people who talk most about it when they lose are those who go frantic with delight when they win. But it is perfectly true that the right attitude toward the game I call winning football is one of unwearying desire to play the best that is in the player, win or lose, and I conceive that these seemingly minor points are quite as vital in their way as the mechanics of the play which nobody will ever criticize a man for knowing and considering and perfecting.

I have been writing throughout rather from the point of view of a coach who has assistants and need not attend in person to every part of his work. Of course, there are instances by the

hundred in which one man has to do all the coaching without any help at all, and his job becomes particularly difficult when he faces his championship game. No one man can possibly watch the individual play of eleven men at the same time closely enough to know when any one of them is tired or weakening or hurt, nor can one man criticize that individual play intelligently later on.

All good football players have or acquire a sort of pluck which is admirable in itself but not always sensible or discreet. I remember watching one game in which a line-man played through several minutes with a broken shoulder, a piece of stark heroism which I should hardly believe myself if I had not seen it. Fine as his courage and stoicism were, he would have been far more useful on the side-lines, and he cost his team fifty or sixty yards before his overburdened coach became aware of the truth. That coach, too, was a very competent fellow, and the incident serves to show how many things one man would have to watch if he should even try to rely on his unaided powers of observation. I advise getting assistance from old players, or friends who know the game or even substitutes themselves in keep-

ing a close individual watch on every man on the field, not only to be informed of his physical condition but to judge as far as may be of his play and its possibilities of improvement. Three or four good men can easily watch the individual play of the eleven, but no one man should even attempt it.

During the first half I believe that the coach's job is chiefly to observe, through his own eyes and others', and not to meddle more than he must with the leadership of the eleven on the field. If you have not managed to teach your quarter-back and captain to think for themselves, your team will be very apt to be beaten before you can wig-wag orders to them from the lines, and will deserve it, too. Such intervention as may properly fall to your part concerns rather the relief of wearying players and the choice of men to replace them, especially since the adoption of the rules allowing a player to leave the game and later return to it, which in themselves open up a very considerable field for side-line strategy which is often wholly neglected. A substitute going out on the field must always be warned again about reporting to the officials and avoiding speech with the other players until after a

play has been made. Even so, there will be enough instances of forgetfulness to satisfy anybody.

This particular rule has always seemed to me the most futile piece of academic legislation ever inflicted on the game. It does not and cannot conceivably prevent a coach from communicating as often as he likes with his men, and those who believe in captaining a team from the side-lines never could have managed it by sending out substitutes as couriers. Instead, it involves a trying delay at every substitution and suggests to the spectator that one object of winning football is to evade or break the rules of the game if it can be done without detection. Again, it seems to work an injustice which its sponsors could not have foreseen, in the recurrent inability of a frantically happy substitute to remember the penalty for a perfectly natural action or omission.

I have absolutely no desire to win distance and still less to win games because such a thing happens to the other side, and naturally I have still less taste for losing them through forgetfulness on ours. Some day this rule will go, and it will be good for the game when it does. You cannot

ever stop side-line coaching until you abolish the spectators and attempts to make it more difficult are merely to complicate the play and penalize, not the offender, but the innocent and forgetful boy who if he had a message to carry illegitimately would certainly not break the rule.

There is one and only one way of stopping a coach from trying to captain his team during games, and that is a beautifully effective one, which requires no officials and no rules. It lies here: The team which is run from the side-lines will lose every time against fairly even opposition trained to do its own thinking. The quarter-back has too many things to watch on the field to keep his eye on the side-lines, and no coach can get the close view of the playing positions which is essential to sound field tactics. It is like passing laws against suicide. They never prevent the attempt or punish the successful offender. The only infraction they can reach is failure to offend. Getting consistently beaten will cure any bad habit a coach can acquire.

One thing that a coach can and should do is to hold his own stopwatch, or, better still, have one held for him by somebody close by who is competent to do it, as not everybody is. Knowing

exactly how the time stands plays a heavy part in side-line strategy, especially in these days of quarter periods and the possibility of replacing a withdrawn player.

The fifteen-minute interval between the halves is pure gold for the coach who knows how to use it and a time of trouble and defeat for the man who has failed to realize its possibilities in each direction. All the trials of the preliminary suspense are multiplied here. For every intruder who tries to break in before the game there will be three at the door between the halves, and the man who would be merely disorderly in the first instance is apt to create a riot now. The old player has smelled blood and powder during the first half, win or lose, and there is no stopping him once he gets past the gate. Bedlam is peaceful compared to the dressing-rooms if the door is not double-barred and triple-guarded. The small boy and the merely inquisitive spectator, reinforced by amateur Napoleons each with an unstoppable play, and the small army of throat-itching revivalists, all gather hungrily at the gate and it takes not only watchful waiting and armed neutrality, but a downright rupture of diplomatic relations to avoid their inrush.

My own memories of the days when I lay gasping for breath and found that all the available air was already in use, when two earnest and ingeniously profane exhorters bent over me with conflicting floods of asterisked rhetoric, are still vivid and awful things. I have seen teams lose their last chance of averting defeat for no other reason in the world than this, and on more than one instance I have watched a two-touchdown lead wiped out after one of these impromptu camp-meetings.

For five minutes after the whistle my men are guaranteed absolute and undisturbed rest and quiet. Not one man gets near them except the trainer, and not even I intrude on that interval. However good their condition, the strain on the nerves is enough to make this indispensable. When I contrast the difference between teams treated like this and those subjected to the indescribable tumult and shouting of my own playing days, I wonder how anybody could have failed to draw the inference for himself, and yet I still see case after case of the old-fashioned methods countenanced and even encouraged by coaches whose other policies are far from foolish.

Rightly used in this way, five minutes will fit

a team to listen intelligently to criticism and suggestion directed at play and to whatever emotional stimulus seems advisable. These five minutes of rest for the team provide the coach with his opportunity to get reports from the men who have been detailed to watch individual play, so that when he does talk he can know exactly what he ought to say and waste no time in beating about broad bushes. It helps a team amazingly to discover that their coach is fiendishly aware of minor happenings on the field and they play better after finding it out, every time.

I know that some men have experimented with the alternative of keeping the team on the field between the halves, and although this has the one advantage of making sure that they are not breathing bad air, I think it never pays. The players will inevitably stiffen up. They hear and see too much, besides, and there is no doubt that they miss the rest and relaxation which only privacy and quiet will allow.

There used to be a general idea that a losing team could be miraculously heartened by a scientific tongue-lashing on the part of the coach or of some specially selected artist in invective during this rest interval. I have seen it work myself,

but on more occasions I have seen it fail, and for my part I prefer not to use the device on general principles. After all, an atmosphere of quiet, business-like directness is more effective with most men, and they profit best from the confidence and liking inspired by a competent critic and leader. I dislike, on principle, all forms of artificial stimulation, from oratory to coffee, and it seems to me that the game ought to be played by mind and muscle and heart rather than by unnatural spurring of any sort. The best teams I have seen have uniformly been those which were cool and clear-headed, without being the less animated by the fine passion of the game. The charge of a merely maddened fanatic is a mean thing to stop, in war or anywhere else, but the man who stops it is nearly always the one who keeps the red blur of emotion from distorting his vision, who can fight as hard as the dervish but does not let go of his wits to do it.

Win or lose, if there is more than one game of the championship sort, the ensuing interval is a hard affair to meet, and this is far harder with a defeated team than with a winner, naturally enough. Even a winning team has to be handled carefully while it waits for the next game, or it

will go astray along one or the other of the many easy avenues which open before it—over-confidence, a let-down in physical condition, or any one of a score of pitfalls can turn a sure champion into a sure loser.

During this gap, if we have won, I find that there will be bad play in the first practise scrimmage, and I make sure of one fairly long session as soon as possible after the game, to get all this bad play out of the team's system, so to speak, at once. In the main, the important thing is to guard against a let-down born of too much work or too much confidence. And it is also important to protect the team as much as possible from the well-meant attentions of its friends.

With a losing team, the task is to recreate and stiffen confidence even more than to correct the faults of play itself. There is no sovereign remedy for defeat and one team always presents a problem different from those offered by the others. I have to suit my method to my men and the circumstances, but it is always essential to instill cheerfulness as much as possible. Defeat leaves a gloom which is very hard to dispel and which wet-blankets mental and physical energy as nothing else will. Here, too, the men have to